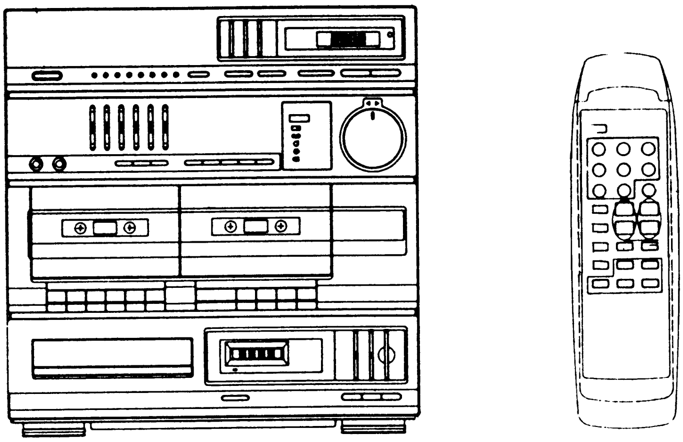
SAMSUNG
Electronics

SERVICE MANUAL
MODEL : SCM-7550

Hi-Fi STEREO MUSIC CENTER WITH COMPACT DISC PLAYER



SCM-7550

SPECIFICATION

GENERAL

Frequency response : 20-20,000Hz

Output power(T. H. D : 10%, load : 4Ω) : 15W/CH.

EQ control(5Bands) ± 7dB

Power source : See label rating

Power consumption : 61W

Dimension : 350(W)×359(H)×256(D)mm

Weight (NET) : 7.3Kg

RADIO

Frequency range FM : 87.5-108MHz
AM(MW) : 522-1611 KHz
LW : 146-290KHz

Intermediate Frequency FM : 10.7MHz
AM(MW), LW : 450KHz

Audio Fidelity FM : 60-10,000Hz
AM(MW) : 80-1,600Hz

TAPE

Track system : 4 Track 2 Channel

Erasing method : AC type

Frequency response : Normal······125Hz-12.5KHz
CrO_2/METAL(PB)···125Hz −12.5KHz

Tape speed : 4.75cm/sec (Normal speed)
9.5cm/sec (High speed)

Tape loading system : Front loading

Deck type : One motor double deck

COMPACT DISC

Number of channel : 2 Channel

D/A Conversion : 16 bit linear

Error correction system : CIRC

Over sampled frequency: 88.2KHz

Dynamic range : 98dB

Design and specification are subject to change without notice.

CONTENTS

- SAFETY PRECAUTION ········ 2
- SERVICING NOTE ········ 3
- LOCATION OF CONTROLS ········ 4
- REMOTE CONTROL UNIT ········ 5
- ABBREVIATION ········ 6
- DISASSEMBLY INSTRUCTION ········ 7
- BASIC CIRCUIT OPERATION ········ 8
  - **1. MICOM PIN DESCRIPTION** ········ 8
  - **2. CD BASIC CIRCUIT OPERATION** ········ 11
- TROUBLE SHOOTING ········ 14
- ALIGNMENT LOCATION AND ADJUSTMENT PROCEDURE
  - **1. TUNER SECTION** ········ 20
  - **2. TAPE SECTION** ········ 23
  - **3. CD SECTION** ········ 26
- BLOCK DIAGRAM ········ 31
- SCHEMATIC DIAGRAM ········ 33
- IC AND TR VOLTAGE CHART ········ 36
- IC AND TR INTERNAL DIAGRAM ········ 39
- PCB PATTERN AND MARKING ········ 45
- WIRING DIAGRAM ········ 48
- EXPLODED VIEW ········ 49
- DECK EXPLODED VIEW ········ 50
- CD MECHANISM EXPLODED VIEW ········ 51
- PARTS LIST ········ 52

■ SAFETY PRECAUTION

1. CLASS 1 LASER PRODUCT

This compact disc player is classified as a CLASS 1 laser product.

2. LASER WARNING LABEL

The label shown below may be affixed or not according to country.

(UL)

This Product Compiles with
DHHS Rules 21CFR, Sub
chapter J. At date of
Manufacture.

(CSA)

CERTIFIED ONLY TO CANADIAN
ELECTRICAL CODE.

CERTIFIE EN VERTU DU CODE
CANADIAN DE LELETRICITE
SEULEMENT

(EU)

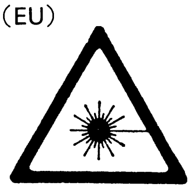
CLASS 1
LASER PRODUCT

Location : Enclosure back.

(SCAN)

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

(EU)



UL : Manufactured for U.S.A. Market.
CSA : Manufactured for Canadian Market.
EU : Manufactured for European Market.
SCAN : Manufactured for Scandinavian Market.

Location : on the disc clamper or inner side of CD door or nearby CD chassis.

3. LASER BEAM WARNING

ADVERSEL – USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING – OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.

VARITUS – LAITE SISÄLTÄA LASERDIODIN, JOKA LÄHETTÄÄ NÄKYMÄTÖNTA SILMILLE VAARALLISTA LASERSATEILYÄ.

CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

4. LASER DIODE SPECIFICATION(OPTICAL PICK-UP)

- Material : AlGaAs
- Wavelength : 760–800nm
- Emission duration : Continuous
- Laser Output : 0.2mW
  *This output is the value measured at distance 1.6mm from the objective lens surface on the optical pick-up block.
- Classification : CLASS 1

5. WARNING FOR SERVICING

WARNING : When servicing, do not approach the LASER exit with the eye too closely. In case it is necessary to confirm LASER beam emission, be sure to observe from a distance of more than 30cm from the surface of the objective lens on the optical pick-up block.

VARNING : När underhållningsarbeten utförs, närma dig försiktigt och se inte på laserutstrålningen på för näre häll. Ifall det är nödvändigt att betrygga laserstrålens utströmning. Var säker att kontrollera detta från ett avstånd av mer än 30cm(11.81inch.) från den objektiva linsens yta på den optiska utsåndningspunkten.

ADVARSEL : När repareringsarbejdet udfoeres, naerm dig forsigtigt og se ikke på laserudstrålingen på for naer hånd.
I tilfaeldet at det er noedvaendigt at bestemme laserstrålens udstråling. Vaer sikker på at kontrollere dette fra en afstand af mere end 30cm(11.81inch.) fra den objektive linses overflade på den optiske udsendningspunkt.

VAROITUS : Silmiä on varottava viemästä liian iäbeiie Laser-poistokanavaa huoiion aikana. Jos on välttämätöntä varmistaa Laser-Säteen päästö, pysyttels sitä tarkasteltaessa vähintään 30cm etäiyydellä optisen lukon objecktiivilinssin pinnasta.

■ SERVICING NOTE

1. Prevent shock hazard by unplugging power supply cord before opening cabinet.
2. Avoid repairing under direct sunshine and heat which may cause cabinet, transistor and IC to be transformed or misoperate.
3. Use a soft cotton swab moistened with warm water or neutral cleaner when parts of unit need to be cleaned.
4. Be sure to use identical replacement parts, especially for critical parts in the unit since many parts in the unit have special safety characteristics marked by ⚠ in the circuit diagram and parts list.
5. Avoid repairing the set near TV or any other magnetic forces.
6. Disconnect immediately the plug from wall socket during electric storm to reduce the risk of damage.
7. Be careful of electrostatic source when using control IC.
8. Be sure not to seperate the pick_up from the unit and not to touch the ALPC (Automatic Laser Power Control).

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK

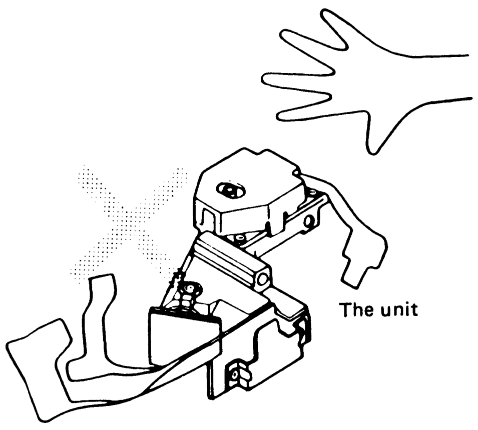
The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

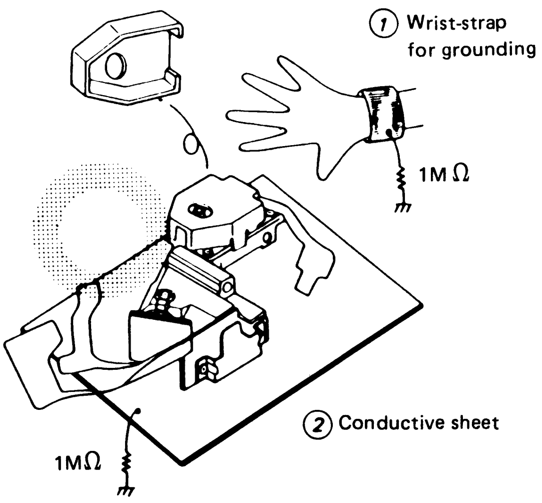
The following method is recommended.

1) Place a conductive sheet on the work bench (The black sheet used as wrapping for repair parts).
2) Place the set on the conductive sheet so that the chassis is grounded to the sheet.
3) Place your hands on the conductive sheet (This gives them the same ground as the sheet).
4) Remove the optical pick up block.
5) Perform work on top of the conductive sheet. Be careful not to let your clothes or any other static sources to touch the unit.
   - * Be sure to put on a wrist strap grounded to the sheet.
   - * Be sure to lay a conductive sheet made of copper etc. which is grounded to the table.

GROUNDING WHEN REPAIRING THE PICK UP

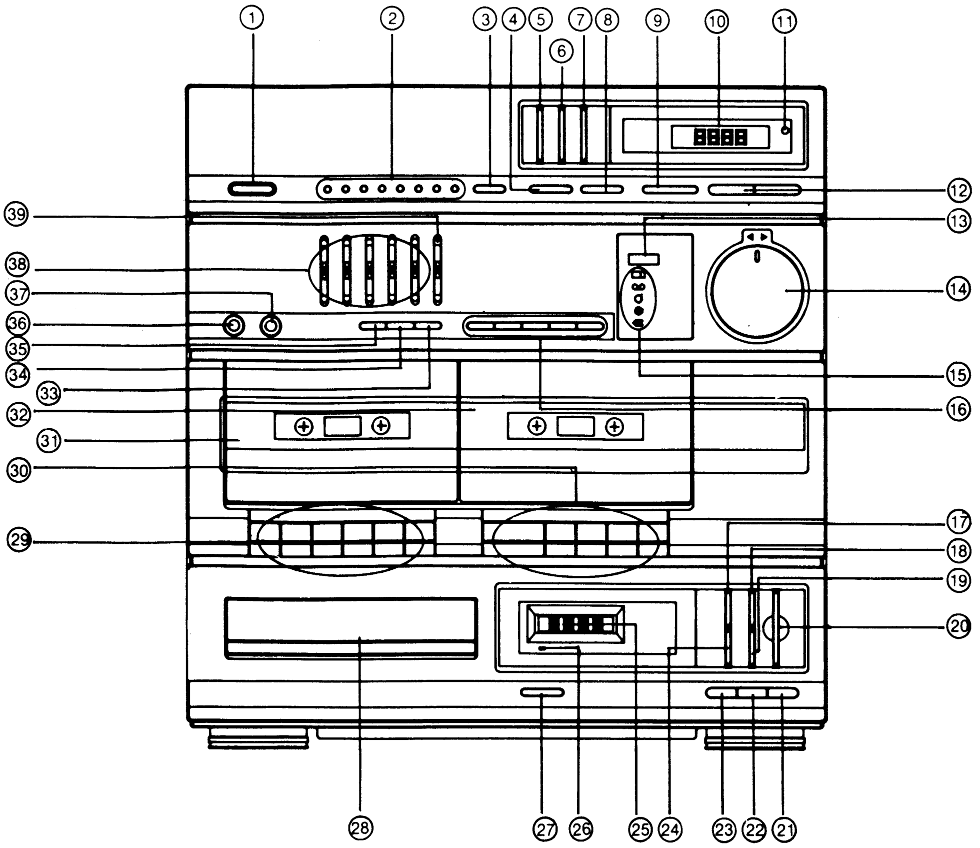
1. GROUNDING TO HUMAN BODY.
   Put on a wrist strap whose one end is grounded for elimination of static electricity in your body.
2. GROUNDING TO YOUR CLOTHING.
   Be sure clothing doesn't touch the pick up because all static electricity in clothing can't be drained away.
3. HANDLING THE FLEXIBLE BOARD.
   The flexible board is easily damaged and should be handled with care.





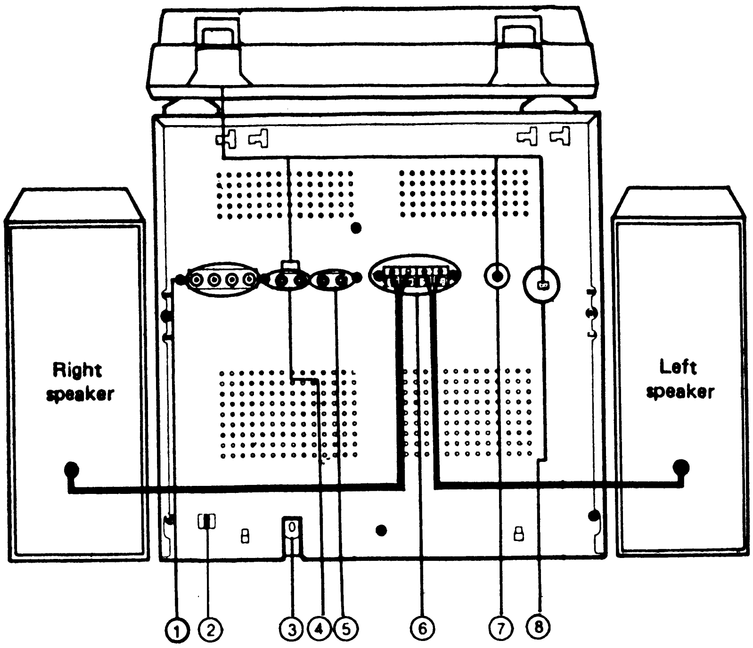
LOCATION OF CONTROLS

- FRONT PANFL



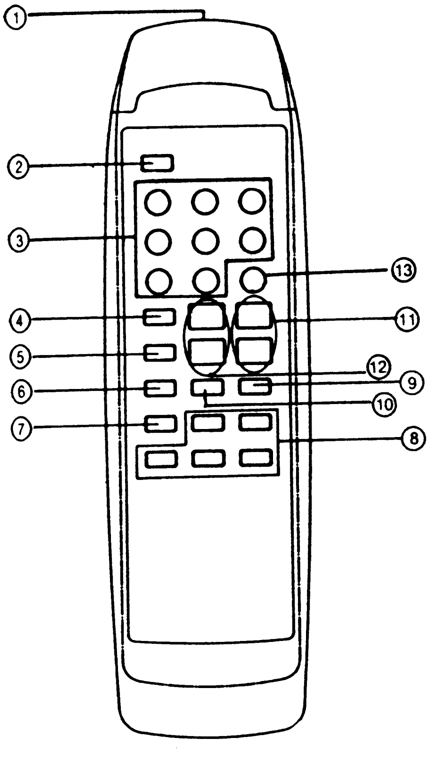
1. POWER SWITCH.
2. PRESET STATION BUTTON.
3. MEMORY BUTTON.
4. BAND SELECTOR BUTTON.
5. SLEEP BUTTON.
6. CLOCK BUTTON.
7. MONO/STEREO BUTTON.
8. TIMER ON BUTTON.
9. AUTO/MANUAL BUTTON.
10. TIMER/TUNER DISPLAY.
11. FM STEREO INDICATOR.
12. TUNING UP/DOWN BUTTON.
13. REMOTE SENSOR.
14. VOLUME.
15. FUNCTION DISPLAY.
16. FUNCTION BUTTON.
17. RANDOM/CLEAR BUTTON.
18. NEXT/F.F BUTTON.
19. BACK/REW BUTTON.
20. PLAY/PAUSE BUTTON.
21. REPEAT BUTTON.
22. DISPLAY BUTTON.
23. MEMORY BUTTON.
24. STOP BUTTON.
25. CD FUNCTION DISPLAY.
26. RANDOM PLAY INDICATOR.
27. OPEN/CLOSE BUTTON.
28. CD DOOR.
29. A DECK
    - RECORDING BUTTON
    - ▷ PLAY BUTTON
    - ◁◁ REWIND BUTTON
    - ▷▷ FAST FORWARD BUTTON
    - STOP/EJECT BUTTON.
    - PAUSE BUTTON.
30. B DECK.
    - ▷ PLAY BUTTON.
    - ◁◁ REWIND BUTTON
    - ▷▷ FAST FORWARD BUTTON.
    - STOP/EJECT BUTTON.
    - PAUSE BUTTON.
31. A DECK DOOR.
32. B DECK DOOR.
33. HI-SPEED BUTTON.
34. DOLBY ON/OFF BUTTON.
35. TAPE SELECTOR BUTTON.
36. HEADPHONE JACK.
37. MIC JACK.
38. 5 BAND EQUALIZER.
39. BALANCE.

- REAR PANEL



1. ANTENNA TERMINAL
2. VOLTAGE SELECTOR (OPTION)
3. POWER CORD
4. PHONO INPUT JACK
5. AUX INPUT JACK
6. SPEAKER TERMINAL
7. GROUND TERMINAL
8. T/TABLE DC JACK

REMOTE CONTROL UNIT



1. INFRARED TRANSMITTER WINDOW
2. POWER ON/OFF BUTTON
3. STATION SELECTION BUTTONS
4. MEMORY BUTTON
5. AUTO TUNING BUTTON
6. BAND SELECTION BUTTONS
7. TUNER BUTTON
8. CD CONTROL BUTTON
   - ◦ PLAY/PAUSE BUTTON : Press to play and press again for pause.
   - ◦ STOP BUTTON : Press to stop playing. The laser pick up will go back to the beginning of the disc.
   - ◦ BACK/REW BUTTON : Press quickly (less than 1 second) for Skip (BACK). Hold pressed for Search (REW)
   - ◦ NEXT/FF BUTTON : Press quickly (less than 1 second) for Skip (NEXT). Hold pressed for Search (F. FWD).
9. SLEEP BUTTON
10. P/S (PRESET SCAN) BUTTON. Press to automatically scan each of the programmed station. A further press to cancel facility.
11. VOLUME UP/DOWN BUTTONS
12. TUNING UP/DOWN BUTTONS
13. CLOCK BUTTON

ABBREVIATION

AC	Alternating Current
Addr	Address
AGC	Automatic Gain Control
ALC	Automatic Level Control
AM	Amplitude Modulation
AMP	AMPlifier
ANT	ANTenna
ASSY	ASSemblY
BAL	BALance
BLK	BLacK
BLU	BLUe
BPF	Band Pass Filter
BRKT	BRacKeT
CF	Ceramic Filter
ch	channel
cm	centimeter
COM	COMmon
CON MIC	CONdenser MICrophone
D	Depth
D/A Convertor	Digital/Analog Convertor
dB	deciBel
DC :	Direct Current
DEC	DECoder
DET	DETector
DEV	DEViation
DSP	Digital Signal Processor
DTS	Digital Tuning System
EA	EAch
E-HEAD	Erase HEAD
FF	Fast Forward
F/F	Flip Flop
Fig	Figure
FM	Frequency Modulation
GND	GrouND
GRN	GReeN
GRY	GRaY
H	Height, High
Hz	Hertz
IC	Integrated Circuit
IF	Intermediate Frequency
IFT	Intermediate Frequency Transformer
I/O	Input/Output
KHz	KilloHertz
Kg	Kilogram
L	Left, Low
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LPF	Low Pass Filter
LW	Long Wave
Max	Maximum
MHz	MegaHertz
min	minimum
MOD	MODulation
MPX	MultiPleX
MW	Medium Wave
NF	Negative Feedback
ORG	ORanGe
OSC	OSCillator
PB	PlayBack
PCB	Printed Circuit Board
PLL	Phase Lock Loop
P/T	Power Transformer
R	Right
RAM	Random Access Memory
REC	RECord
REG	REGulator
REW	REWind
RF	Radio Frequency
ROM	Read Only Memory
R/P	Record/Play
sec	second
SSG	Standard Signal Generator
SSP	Serro Signal Processor
ST	STereo
ST/EJT	STop/EJecT
SW	SWitch, Short Wave
TP	Test Point
TR	TRansistor
TRANS	TRANSformer
V	Volt
VIO	VIOlet
VCO	Voltage Controlled Oscillator
VOL	VOLume
Vpp	Voltage peak to peak
VR	Volume
Vref	REFerence Volgate
V/SEL	Voltage SELector
VTVM	Vaccum Tube Volt Meter
VVC	Voltage Variable Capacitance
W	Watt, Weitht
WHT	WHiTe
X	crystal
YEL	YELlow

DISASSEMBLY INSTRUCTION

* Before disassembling the unit, remove AC cord.

1. TOP CABINET

   Remove 11 screws holding on Top and Side Panel. (FIG. 1)

2. REAR PANEL

   Remove 12 screws from the Panel. (FIG. 1)

3. BOTTOM CABINET

   Remove 3 screws located at either side and at the Bottom front. (FIG. 1)

4. MID SIDE SUPPORT

   Remove 2 screws at the Front Side of the Mid Side Support. (FIG. 1)

5. CASSETTE DECK

   Remove 8 screws (1). (FIG. 2)

6. CD MECHANISM

   Remove the 4 screws holding down the CD Mechanism along with the 4 springs located underneath the Mechanism directly under the screws.
   Remove the Holder Tray. (FIG. 3)

*** Arrow in the figure indicates direction of part to be dismantled.**

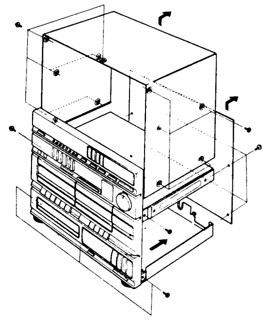


FIG. 1

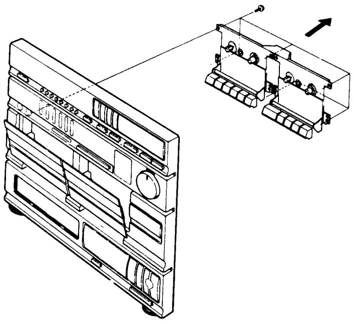


FIG. 2

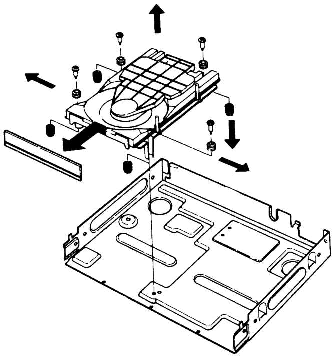


FIG. 3

■ BASIC CIRCUIT OPERATION

1. MICOM PIN DESCRIPTION

1. LC7230-8303(DTS CONTROLLER)

PIN NO.	PIN NAME	I/O	FUNCTION	ACTIVE
1	XIN	I	Crystal oscillating port. (4.5MHz)	—
80	XOUT	O	Crystal oscillating port. (4.5MHz)	—
2, 79	TEST 1, 2	I	Connect to GND	—
3	REMOCON	I	Remote control input port. If it is open, it may cause Remocon Control to maloperate.	L
4	$\overline{\text{STEREO}}$	I	Not in use.	L
7	CE2	O	Not in use.	L
8−11	$\overline{\text{FM}}$, $\overline{\text{MW}}$, $\overline{\text{LW}}$, $\overline{\text{SW}}$	O	Band power convert port.	L
			CD Remocon control signal port.	
12	VR DOWN	O	If volume down signals are input, it outputs high voltage.	H
13	VR UP	O	If volume up signals are input, it outputs high voltage.	H
14	MO/ST	O	Mono stereo selection port.	H
15~17	CE, DO, CLK	O	LC7821, LC7535 control port. (serial data line)	H, H, ↑
18	IF CNT	O	IF signal output port. If low voltage is input to SD port (LA1851N) during auto search, it changes from low to high.	H
19	NARROW	O	CD remote control signal port.	H
20	POWER OUT	O	Power control port.	H
21	$\overline{\text{A MUTE}}$	O	Audio mute port.	L
22	STB	O	DATA STRBO port of LC74HC375.	H
23−26	T7−T4	O	Transmit data to LC74HC375(TAPE, TUNER, AUXY PHONO)	H
27−30	T3−T0	O	Key scan output signal.	H
32−35	K3−K0	I	Key input signal.	H
5−6	K5, K4	I	Diode matrix input signal.	H
63−36	S1−S28	O	LCD Segment drive port.	—
65, 64	COM Ⅰ, 2	O	LCD Common drive port.	—
67	$\overline{\text{HOLD}}$	I	L−Back up mode.	L
69	$\overline{\text{SD}}$	I	Broadcast receiving port.	L
70	HCTR	I	FM IF Signal input port.	—
71	LCTR	I	AM IF Signal input port.	—
72	SNS	I	Transmit data to LC7821, 74HC375	H
74, 75	FM 1, AM 1N	I	Input local OSC signal.	—
76, 77	EQ 1, 2	O	Phase comparison output signal.	
66	INT	I	Remote control input input port.	
31, 73	VDD			
76	Vss			
68	RES			

2. CXD 1130Q PIN DISCRIPTION

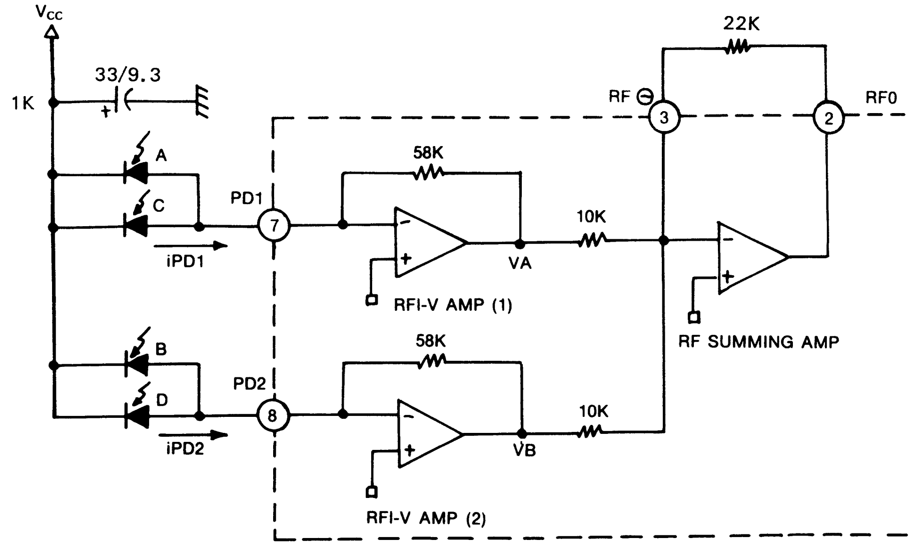
PIN NO.	PIN NAME	I/O	FUNCTION
1	FSW	O	Pin 1 output is switched constant when the output filter of the spindle motor is energized.
2	MON	O	ON/OFF control for spindle motor.
3	MOP	O	Spindle motor drive. Provides rough control during CLV-5 mode and phase control during CLV-P mode.
4	MDS	O	Spindle motor drive. Controls speed during CLV-P mode.
5	EFM	I	EFM signal from RF amplifier.
6	ASY	O	Controls slice level of the EFM signal.
7	LOCK	O	The output of pin 7 reflects the status of the GFS signal which is sampled at WFCK/16. When the GFS signal is "H", the output of pin 7 is also "H", but, when the signal has remained "L" for at least 8 samples, the output of pin 7 is "L".
8	VCOO	O	When VCO locks to EFM signal, the frequency becomes 8.6432 MHz.
9	VCOI	I	VCO input.
10	TEST	I	(0V)
11	PDO	O	The output of Pin 11 provides phase comparison of EFM signal and VCO/2
12	V_{ss}	–	GND(0V)
13	CLK	I	Pin 13 provides serial transmission clock from the CPU. Data is latched on the leading edge of the clock.
14	XLT	I	Pin 14 provides latch input from the CPU. 8-bit shift register data (serial data received from the CPU) is latched in each of the registers.
15	DATA	I	Serial data from the CPU.
16	XRST	I	System reset ("L")
17	CNIN	I	Tracking pulse input.
18	SENS	O	Output reflecting internal condition as designated by address.
19	MUTG	I	Muting input. MUTG is "L" when ATTM of internal register A is "L" (normal condition). MUTG is "H" when muting condition is set.
20	CRCF	O	Output the results CRC check of subcode Q.
21	EXCK	I	Clock input for subcode serial output.
22	SBSO	O	Serial output of subcode.
23	SUBQ	O	Output of subcode Q.
24	SCOR	O	Output of subcode sync S0+S1.
25	SQCK	I/O	Clock for reading subcode Q.
26	SQEX	I	Input for selecting SQCK.
27	DOTX	O	Digital-output ($\overline{\text{WFCK}}$ is output when DO is off or for the CXD 1130Q.)
28	GFS	O	Indicates the frame sync lock status.
29	DBO8	I/O	Data pin for external RAM. DATAB (MSB)
30	DBO7	I/O	Data pin for external RAM. DATA7
31	DBO6	I/O	Data pin for external RAM. DATA6
32	DBO5	I/O	Data pin for external RAM. DATA5
33	V_{DD}	–	Power supply (+5V)
34	DBO4	I/O	Data pin for external RAM. DATA4
35	DBO3	I/O	Data pin for external RAM. DATA3
36	DBO2	I/O	Data pin for external RAM. DATA2
37	DBO1	I/O	Data pin for external RAM. DATA1(LSB)
38	RAO1	O	Output address of external RAM. ADDRO1 (LSB)
39	RAO2	O	Output address of external RAM. ADDRO2
40	RAO3	O	Output address of external RAM. ADDRO3

PIN NO.	PIN NAME	I/O	FUNCTION
41	RAO4	O	Output address of external RAM. ADDRO4
42	RAO5	O	Output address of external RAM. ADDRO5
43	RAO6	O	Output address of external RAM. ADDRO6
44	RAO7	O	Output address of external RAM. ADDRO7
45	RAO8	O	Output address of external RAM. ADDRO8
46	RAO9	O	Output address of external RAM. ADDRO9
47	RA10	O	Output address of external RAM. ADDR10
48	RA11	O	Output address of external RAM. ADDR11 (MSB)
49	RAWE	O	Writes enable output signal to external RAM. (Active when “I”.)
50	RACS	O	Chip select output signal to external RAM. (Active when “L”.)
51	C4M	O	Divider output for crystal. f=4.2336MHz
52	V_{SS}	–	GND (0V)
53	XTAI	I	Input to crystal oscilator circuit. Depending on the mode the frequency is either f=8.4672 or 16.9344MHz
54	XTAO	O	Output from crystal oscilator circuit. Depending on the mode the frequency is either f=8.4672 or 16.9344MHz.
55	MD1	I	Mode selection input 1.
56	MD2	I	Mode selection input 2.
57	MD3	I	Mode selection input 3.
58	SLOB	I	Code switch input for audio data output. 2's complement output when “L”, offset binary output when “H”.
59	PSSL	I	Code switch input for audio data output. Serial output when “L”, parallel output when “H”.
60	APTR	O	Control output for aperture compensation. “H” during R-ch.
61	APTL	O	Control output for aperture compensation. “H” during L-ch.
62	DA01	O	DA01 (LSB of parallel audio data) is input when PSSL=“H”. C1F1 is output when PSSL=“L”.
63	DA02	O	DA02 is output when PSSL=“H”. C1F2 is output when PSSL=“L”.
64	DA03	O	DA03 is output when PSSL=“H”. C2F1 is output when PSSL=“L”.
65	DA04	O	DA04 is output when PSSL=“H”. C2F2 is output when PSSL=“L”.
66	DA05	O	DA05 is output when PSSL=“H”. C2FL is output when PSSL=“L”.
67	DA06	O	DA06 is output when PSSL=“H”. C2PO is output when PSSL=“L”.
68	DA07	O	DA07 is output when PSSL=“H”. RFCK is output when PSSL=“L”.
69	DA08	O	DA08 is output when PSSL=“H”. WFCK is output when PSSL=“L”.
70	DA09	O	DA09 is output when PSSL=“H”. PLCK is output when PSSL=“L”.
71	DA10	O	DA10 is output when PSSL=“H”. UGFS is output when PSSL=“L”.
72	DA11	O	DA11 is output when PSSL=“H”. GTOP is output when PSSL=“L”.
73	V_{DD}	–	Power supply (+5V)
74	DA12	O	DA12 is output when PSSL=“H”. RAOV is output when PSSL=“L”.
75	DA13	O	DA13 is output when PSSL=“H”. C4LR is output when PSSL=“L”.
76	DA14	O	DA14 is output when PSSL=“H”. C210 is output when PSSL=“L”.
77	DA15	O	DA15 is output when PSSL=“H”. C210 is output when PSSL=“L”.
78	DA16	O	DA16 (MSB of parallel audio data) is output when PSSL=“H”. DATA is output when PSSL=“L”.
79	WDCK	O	Strobe signal output. Output is 176.4kHz when DF is on. Output is 88.2kHz when DF is off or when the chip being used is CXD1125Q.
80	LRCK	O	Strobe signal output. Output is 88.2kHz when DF is on. Output is 44.1kHz when DF is off or when the chip being used is CXD1125Q.

2. CD BASIC CIRCUIT OPERATION

1. RF AMPLIFIER (CXA1081M) : WIC 201

RF I-V amplifiers (1) and (2) are converted to voltage from the signal current of pin photodiodes connected to PD1 and PD2 through the 58 kΩ equivalent resistance. Furthermore, it is added in the RF summing amplifier and (A+B+C+D) is output at RFO. At this pin (RFO), the eye pattern can be checked.



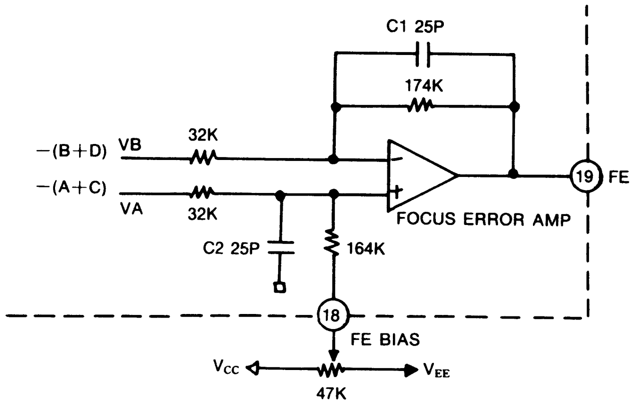
Vcc
1K
33/9.3
A
C
B
D
iPD1
iPD2
PD1
PD2
7
8
58K
58K
RFI-V AMP (1)
RFI-V AMP (2)
VA
VB
10K
10K
22K
RF ⊖
3
2
RFO
RF SUMMING AMP

The RFamplifier output voltage (low-frequency) is

$$V_{RFO} = 2.2 \times (V_A + V_B)$$
$$= 127.6k\Omega \times (iPD1 + iPD2). \text{ (at RFO)}$$

2. FOCUS ERROR AMPLIFIER (CXA1081M) : WIC 201

The Focus Error Amplifier is the difference between RF I-V amplifier (1) output (A+C) and RF I-V amplifier (2) output (B+D). The output becomes (A+C−B−D).



C1 25P
174K
−(B+D)
VB
32K
−(A+C)
VA
32K
C2 25P
164K
FOCUS ERROR AMP
19
FE
18
FE BIAS
Vcc
VEE
47K

The FE amplifier output voltage (low-frequency) is

$$V_{FE} = 5.4 \times (V_A - V_B)$$
$$= (iPD2 - iPD1) \times 315.4k\Omega$$

3. TRACKING ERROR AMPLIFIER (CXA1081M) : WIC 201

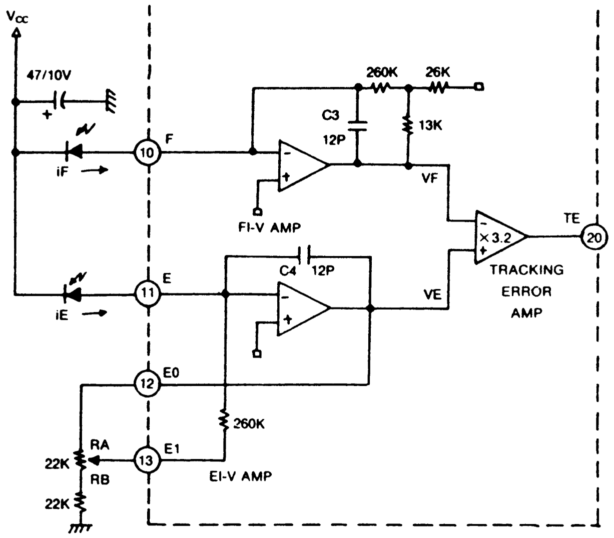
E I-V amplifier and F I-V amplifier are converted to voltage from the signal current of pin photodiode connected : E and F. The E and F I-V amplifiers output voltage is,

$V_F = iF \times 403\ k\Omega$, and

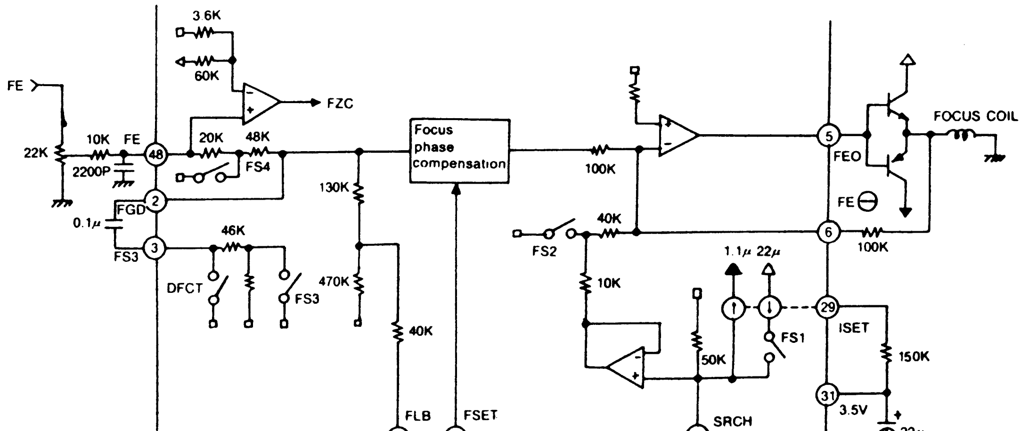
$V_E = iE \times 260\ k\Omega \times R_A/(R_{B+}22k)+(R_A+260k)$

The tracking error amplifier is the difference between the E I-V amplifier output and the F I-V amplifier output, this output is (E-F).

$$V_{TE} = (V_E - V_F) \times 3.2$$
$$= (iE - iF) \times 1290 k\Omega$$


Vcc
47/10V
+
iF
F
10
FI-V AMP
260K
26K
C3
12P
13K
VF
TE
20
x3.2
TRACKING
ERROR
AMP
iE
E
11
C4
12P
VE
12
E0
260K
RA
22K
RB
22K
13
E1
EI-V AMP

4. FOCUS SERVO SYSTEM (CXA1082AQ) : WIC 202


FE
22K
10K
FE
2200P
48
FGD
2
0.1μ
FS3
3
3.6K
60K
FZC
20K
48K
FS4
46K
DFCT
FS3
130K
470K
40K
Focus phase compensation
FLB
4
0.1μ
FSET
17
470K
100K
FS2
40K
10K
50K
1.1μ
22μ
FS1
SRCH
7
4.7μ
5
FEO
FE⊖
6
100K
29
ISET
150K
31
3.5V
22μ
FOCUS COIL

When FS3 is switched on, the high frequency gain can be reduced by forming a low frequency time constant through a capacitor connected across pins 2 and 3 and the internal resistor.

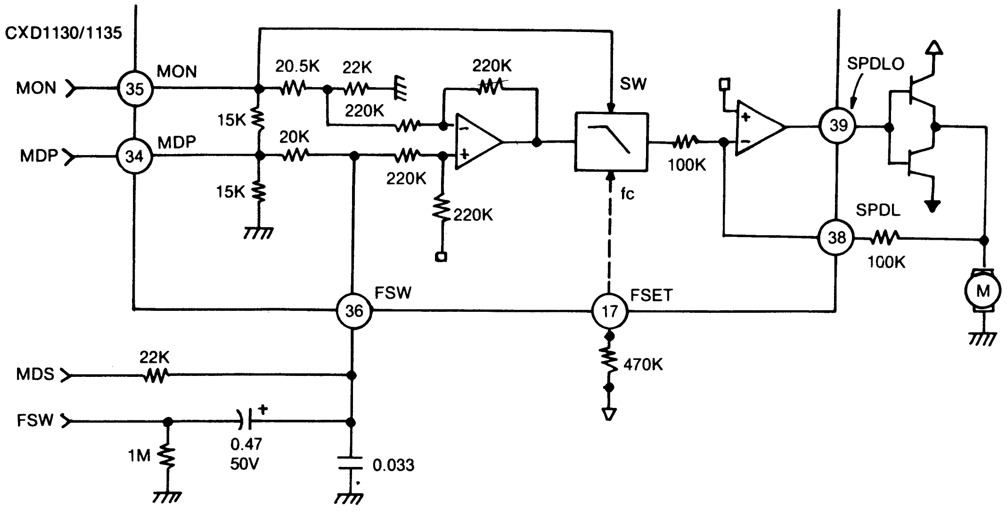
The capacitor across the pin 4 and GND has a time constant to raise the low frequency usually playback condition.

The peak frequency of the focus phase compensation is inversely proportional to the resistor connected to pin 17 (about 1.2 kHz when the resistor is 510 kΩ)

The focus search peak becomes about ± 1.1 V_{P-P} with the above constant. The peak is inversely proportional to the resistor connected across the pins 29 and 31. However, when this resistor is varied, the peaks of track jump and sled kick also vary.

The FZC comparator invert input is set to 2% of the difference between the reference voltage V_{CC} and VC(pin 1) : 2 %×(V_{CC}−VC).

5. SPINDLE SERVO AND LPF (CXA1082AQ) : WIC 202

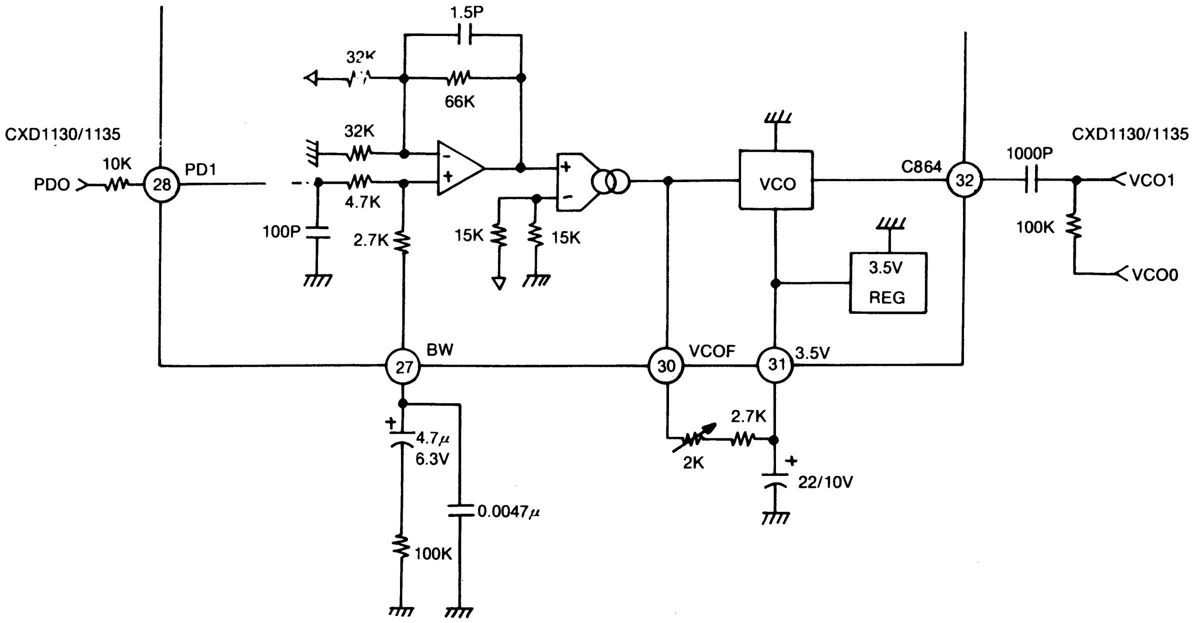

CXD1130/1135
MON
MON
35
MDP
MDP
34
20.5K
22K
220K
220K
15K
20K
220K
15K
220K
SW
fc
100K
SPDLO
39
38
SPDL
100K
M
FSW
36
17
FSET
470K
MDS
22K
FSW
1M
0.47
50V
0.033

The 200 Hz LPF is formed with 0.033 μF and 20 kΩ connected to pin 36 and the secondary LPF is formed with the built-in LPF (fc up to 200 Hz with 510 kΩ for pin 17), and the carrier component of the CLV servo error signals MDS and MDP is eliminated.

In the CLV-S mode, FSW becomes L and the pin 36 LPF fc lowers, strengthening the filter further. With the pin 17 resistor connected to V_{CC}, fc does not vary with power supply voltage fluctuations.

Note) Use the phase compensation instead of MDS when the CX23035 is used.

6. VCO LOOP FILTER AND 8.64 MHz VCO (CXA1082AQ) : WIC 202

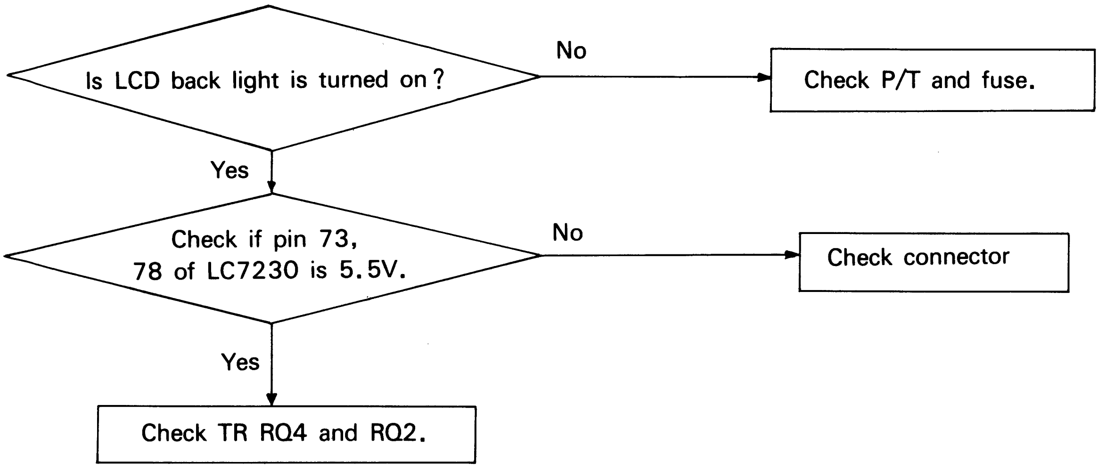

1.5P
32K
66K
32K
4.7K
100P
2.7K
15K
15K
CXD1130/1135
10K
PDO
28
PD1
VCO
C864
32
CXD1130/1135
1000P
VCO1
100K
VCO0
3.5V
REG
BW
27
VCOF
30
31
3.5V
2.7K
2K
22/10V
4.7μ
6.3V
0.0047μ
100K

The phase compensation output PDO input from pin 28 has its PWM carrier component removed in the loop filter. Then, the V-I conversion is made and the free-running frequency setting current from pin 30 is added to control the VCO frequency. The VCO self-running frequency is almost inversely proportional to the resistor across pins 30 and 31. This resistor is set so that the PLL capture range center matches the 4.3218 MHz at pin 70 of the CXD 1135/1130.

TROUBLE SHOOTING

1. MAIN AND TUNER SECTION

- POWER SOURCE NOT SENSIBLE


Is LCD back light is turned on?
No
Check P/T and fuse.
Yes
Check if pin 73, 78 of LC7230 is 5.5V.
No
Check connector
Yes
Check TR RQ4 and RQ2.

- LCD NOT OPERATING

1. Check if OSC frequency of LC7230 is 4.5MHz.
2. Check if pattern is open or soldering is misapplied.

- FUNCTION KEY INOPERATIVE

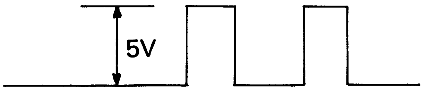
1. Check contact and connection of CW1~3 to wafer.
2. Check soldering of LC7230.

- BAND CONVERSION INOPERATIVE

1. Check if FQ5, FQ6 operate (FQ5 :AM, FQ6 : FM).

- FUNCTION CONVERSION INOPERATIVE

1. If FUNCTION LED doesn't operate ;
   Check soldering of 74HC375.
2. If FUNCTION LED is working but signal is not converted ;
   Check signal output at pin 15, 16, 17 of LC7230.


5V
LC7821 CE, DO, CLK

LC7821 won't operate until power supply reaches 5V.

3. If CD Remote Control is inoperative, check the output of FW5.

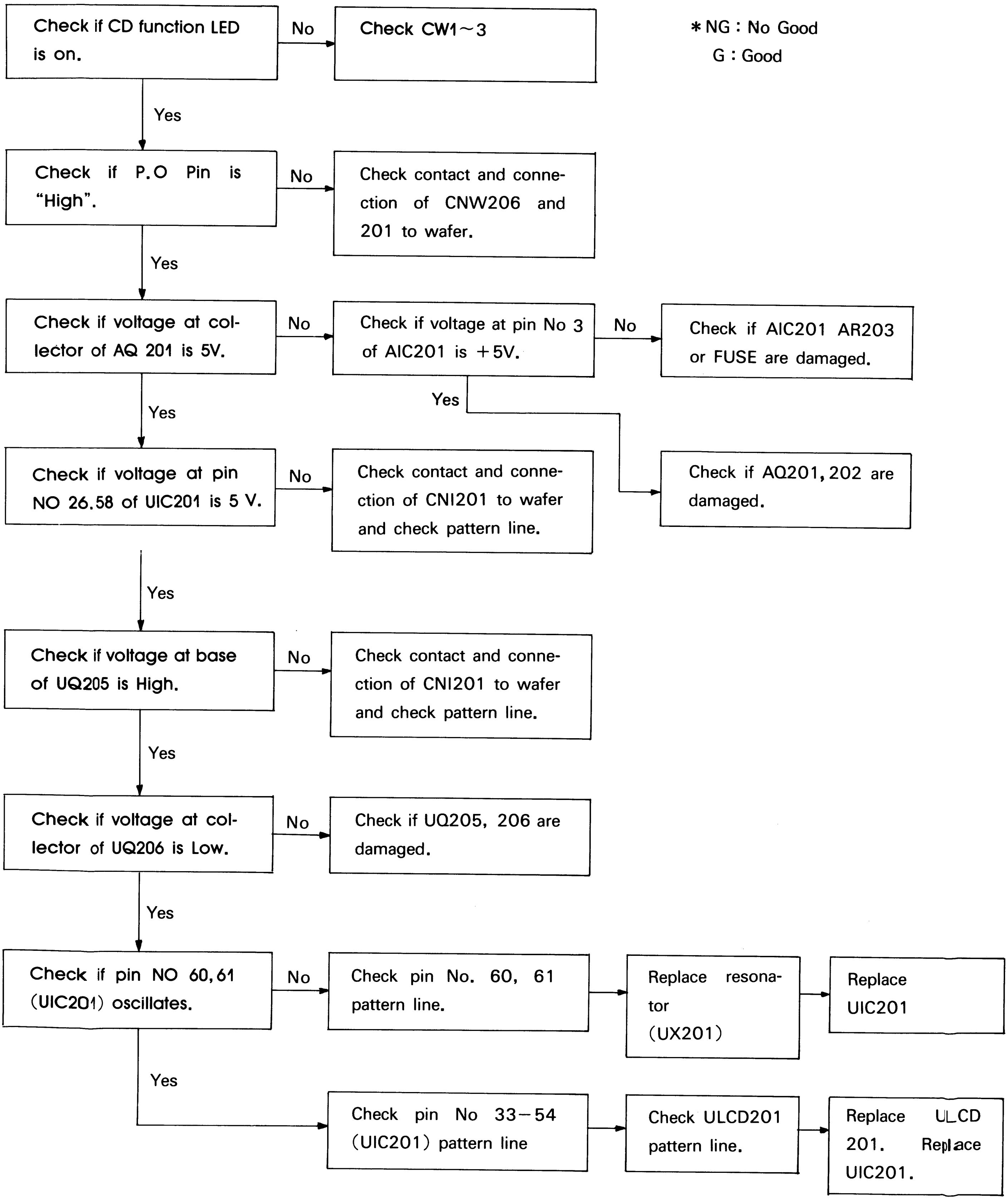
2. DECK SECTION

<table>
<tr><th>BLOCK</th><th>MAIN FUNCTION</th><th>CHECK POINT</th></tr>
<tr><td>Tape EQ Amp
JIC1(LA3246)</td><td>Convert signal of PB and R/P Deck.</td><td>• Check pin NO. 9.
PB Deck : LOW, R/P Deck : HIGH
• Check Deck leaf S/W when malfunctioning.</td></tr>
<tr><td>DOLBY NR Amp
QIC1(KA2271)</td><td>Convert PB and source signal.

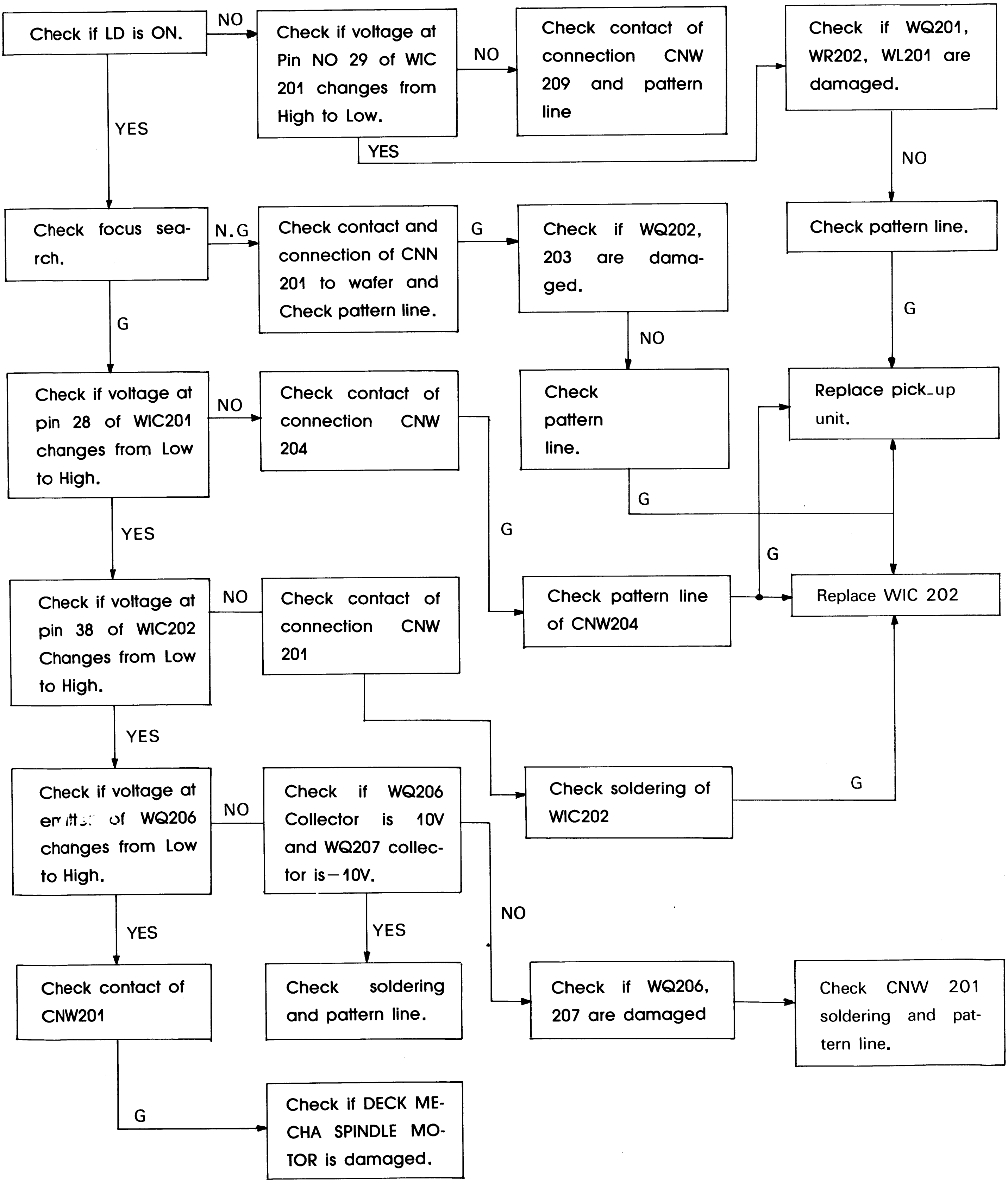
Turn DOLBY NR ON/OFF.</td><td>• Check pin No. 12
During PB : H
During R/P : L
During dubbing : H
• Check pin No. 5.
<table>
<tr><td>DOLBY NR</td><td>OFF</td><td>ON</td></tr>
<tr><td>PIN 5</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>LINE INPUT Amp
DIC2(BA3312)</td><td>ALC (Automatic level control)</td><td>• Check pin No. 4 : 0.8V−1.1V</td></tr>
<tr><td>Bias OSC</td><td>Oscillate recording bias(105 kHz)</td><td>• Check TP1, 2
• When malfunctioning, check LQ2.</td></tr>
<tr><td>R/P switching</td><td>Convert PLAY/REC head of Deck B.</td><td>• Check voltage at base of KQ1L, R, KQ2L, R, KQ3L, R.
<table>
<tr><td></td><td>KQ1L, R</td><td>KQ2L, R</td><td>KQ3L, R</td></tr>
<tr><td>REC</td><td>on</td><td>off</td><td>off</td></tr>
<tr><td>PLAY</td><td>off</td><td>on</td><td>on</td></tr>
</table></td></tr>
</table>

3. CD SECTION

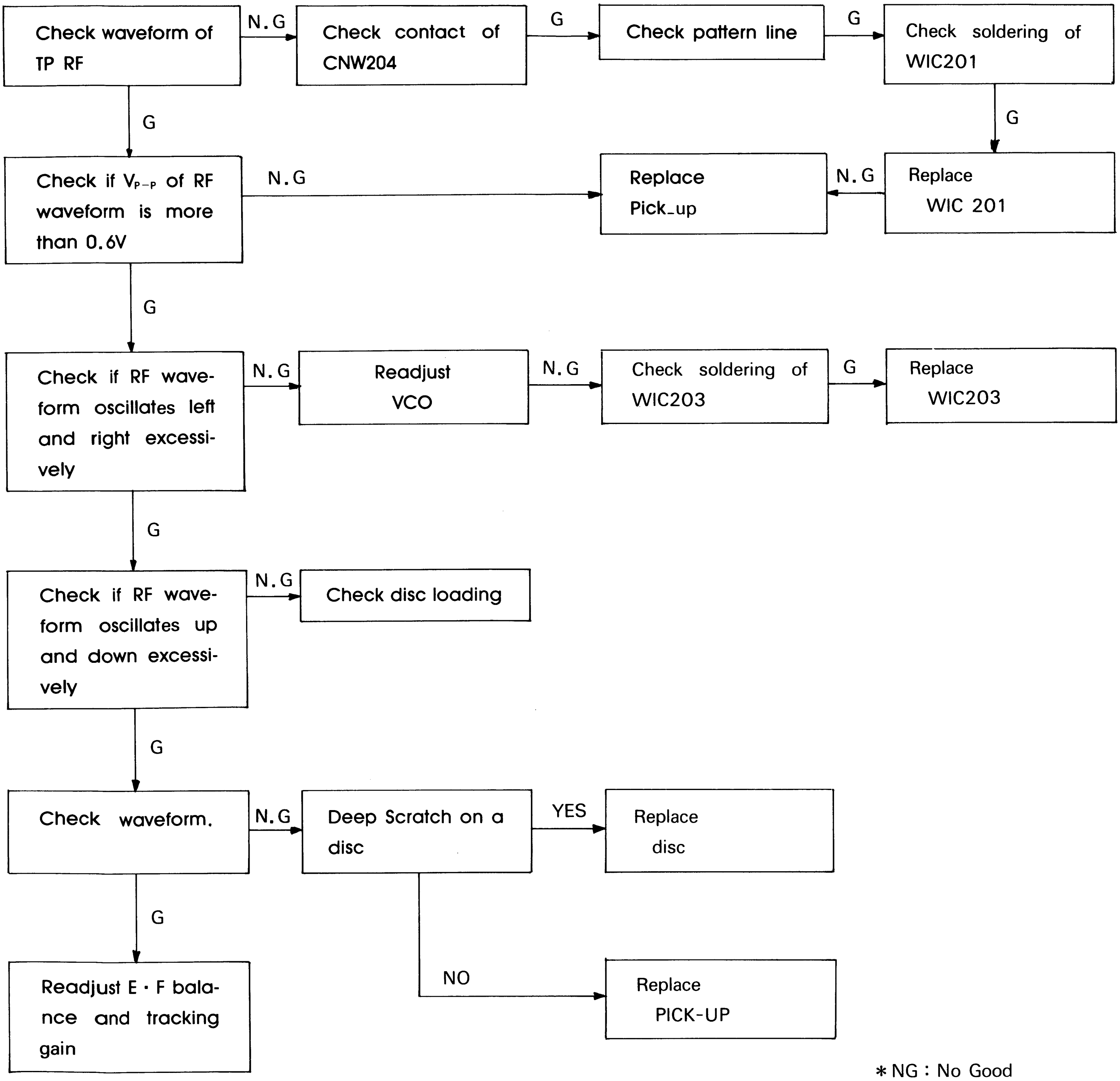
1) CD DISPLAY NOT OPERATING.


Check if CD function LED is on.
No
Check CW1~3
*NG : No Good
G : Good
Yes
Check if P.O Pin is "High".
No
Check contact and connection of CNW206 and 201 to wafer.
Yes
Check if voltage at collector of AQ 201 is 5V.
No
Check if voltage at pin No 3 of AIC201 is +5V.
No
Check if AIC201 AR203 or FUSE are damaged.
Yes
Check if AQ201, 202 are damaged.
Yes
Check if voltage at pin NO 26.58 of UIC201 is 5 V.
No
Check contact and connection of CNI201 to wafer and check pattern line.
Yes
Check if voltage at base of UQ205 is High.
No
Check contact and connection of CNI201 to wafer and check pattern line.
Yes
Check if voltage at collector of UQ206 is Low.
No
Check if UQ205, 206 are damaged.
Yes
Check if pin NO 60,61 (UIC201) oscillates.
No
Check pin No. 60, 61 pattern line.
Replace resonator (UX201)
Replace UIC201
Yes
Check pin No 33-54 (UIC201) pattern line
Check ULCD201 pattern line.
Replace ULCD 201. Replace UIC201.

2) DISC DOESN'T ROTATE

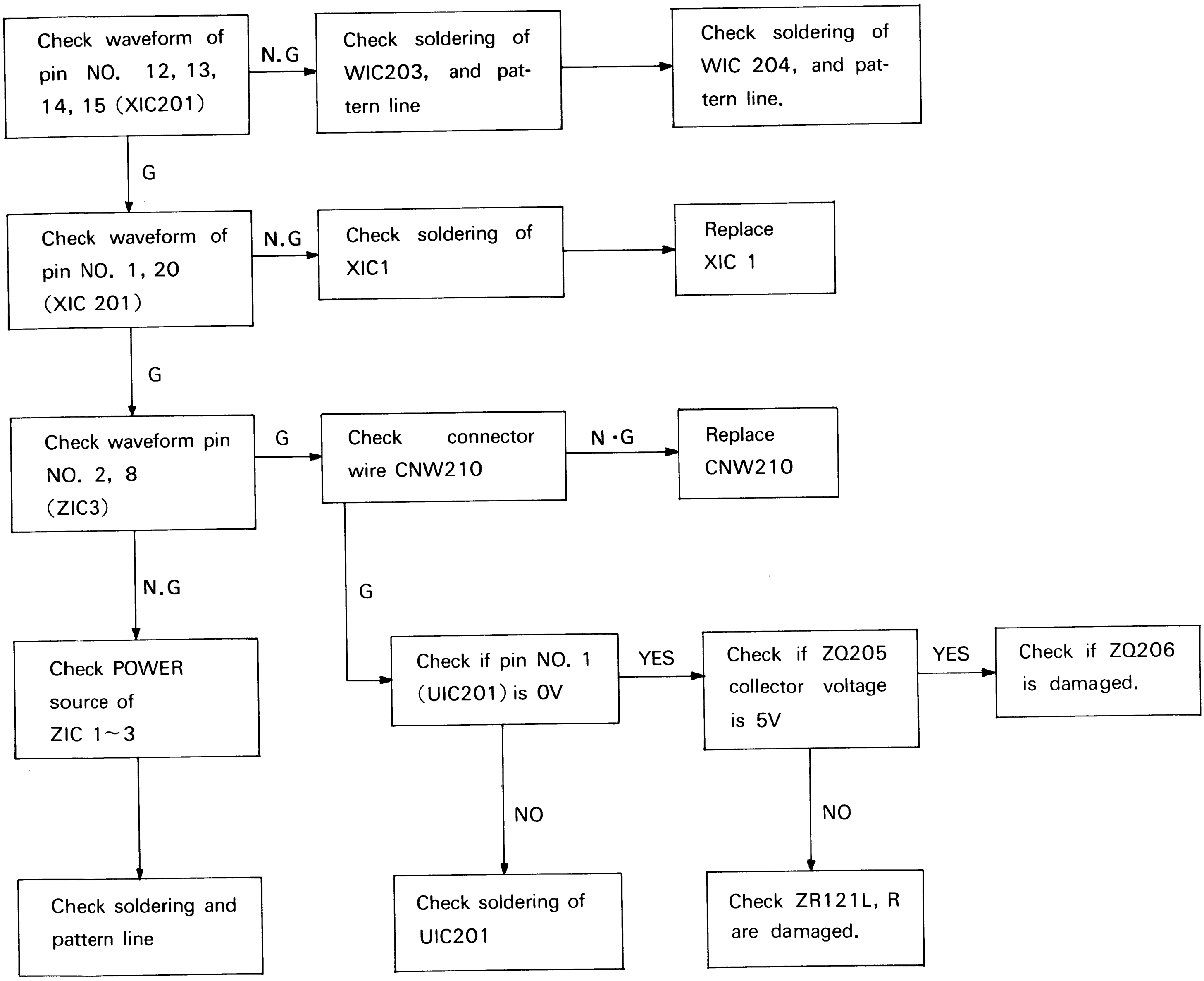

Check if LD is ON.
NO
Check if voltage at Pin NO 29 of WIC 201 changes from High to Low.
NO
Check contact of connection CNW 209 and pattern line
YES
Check if WQ201, WR202, WL201 are damaged.
NO
YES
Check focus search.
N.G
Check contact and connection of CNN 201 to wafer and Check pattern line.
G
Check if WQ202, 203 are damaged.
Check pattern line.
G
G
NO
Check if voltage at pin 28 of WIC201 changes from Low to High.
NO
Check contact of connection CNW 204
Check pattern line.
Replace pick_up unit.
G
YES
G
G
Check if voltage at pin 38 of WIC202 Changes from Low to High.
NO
Check contact of connection CNW 201
Check pattern line of CNW204
Replace WIC 202
YES
Check if voltage at emitter of WQ206 changes from Low to High.
NO
Check if WQ206 Collector is 10V and WQ207 collector is −10V.
Check soldering of WIC202
G
NO
YES
YES
Check contact of CNW201
Check soldering and pattern line.
Check if WQ206, 207 are damaged
Check CNW 201 soldering and pattern line.
G
Check if DECK MECHA SPINDLE MOTOR is damaged.

3) LEAD IN NOT WORKING


Check waveform of TP RF
N.G
Check contact of CNW204
G
Check pattern line
G
Check soldering of WIC201
G
G
Check if V_{P-P} of RF waveform is more than 0.6V
N.G
Replace Pick-up
N.G
Replace WIC 201
G
Check if RF waveform oscillates left and right excessively
N.G
Readjust VCO
N.G
Check soldering of WIC203
G
Replace WIC203
G
Check if RF waveform oscillates up and down excessively
N.G
Check disc loading
G
Check waveform.
N.G
Deep Scratch on a disc
YES
Replace disc
NO
Replace PICK-UP
G
Readjust E · F balance and tracking gain

＊NG : No Good
G : Good

4) NO AUDIO OUTPUT


Check waveform of pin NO. 12, 13, 14, 15 (XIC201)
N.G
Check soldering of WIC203, and pattern line
Check soldering of WIC 204, and pattern line.
G
Check waveform of pin NO. 1, 20 (XIC 201)
N.G
Check soldering of XIC1
Replace XIC 1
G
Check waveform pin NO. 2, 8 (ZIC3)
G
Check connector wire CNW210
N·G
Replace CNW210
N.G
G
Check POWER source of ZIC 1~3
Check if pin NO. 1 (UIC201) is 0V
YES
Check if ZQ205 collector voltage is 5V
YES
Check if ZQ206 is damaged.
NO
NO
Check soldering and pattern line
Check soldering of UIC201
Check ZR121L, R are damaged.

■ ALIGNMENT LOCATION AND ADJUSTMENT PROCEDURE

1. TUNER SECTION

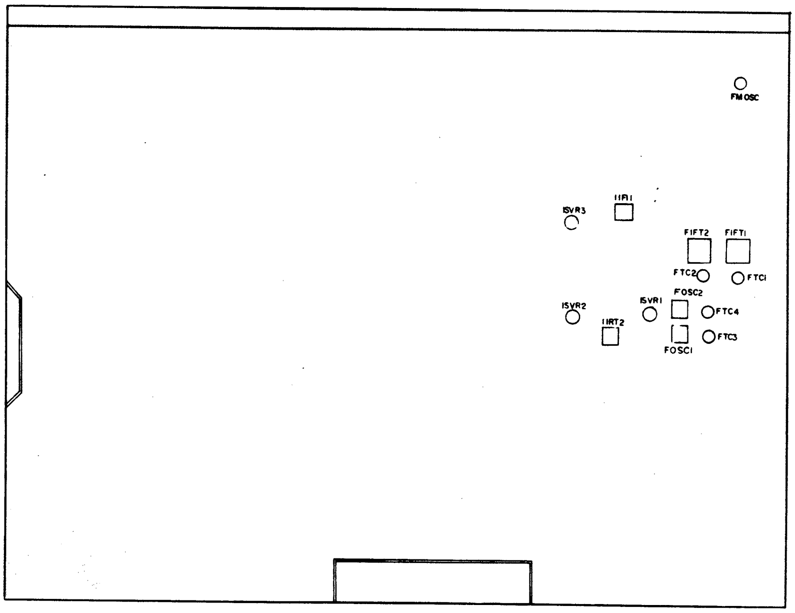
1. MEASURING INSTRUMENTS REQUIRED

1) AM STANDARD SIGNAL GENERATOR
   : 100KHz−35MHz, 400Hz, 30% MOD
2) FM STANDARD SIGNAL GENERATOR
   : OUTPUT IMPEDANCE 75 OHMS, 1KHz, 40KHz DEV.
3) FM/AM IF GENERATOR : 10.7MHz, 450KHz
4) OSCILLOSCOPE
5) OUTPUT METER : LEVEL METER OR AC VOLTMETER. (VTVM)
6) FREQUENCY COUNTER
7) LOOP ANTENNA
8) DUMMY LOAD (4 OHM)
9) DC VOLTMETER

2. IMPORTANTS

1) Check the power source voltage.
2) Set the "FUNCTION" and "BAND" switches to a band to be aligned.
3) The "EQUALIZER", "VOLUME" and "BALANCE" control should be turned to the mid position.
4) The standard modulation is the 30% with 400Hz signal for AM and is the 40KHz deviation with 1KHz signal for FM.
5) The standard output is 500mW, 4 ohm.

3. LOCATION OF ADJUSTMENT POINT (MAIN PCB ; PARTS SIDE)



ISVR1 : FM AUTO SELECTION ADJ.
ISVR2 : AM AUTO SELECTION ADJ.
ISVR3 : FM SEPARATION ADJ.
IIFT1 : FM IF ADJ.
IIFT2 : AM IF ADJ.
FIFT1 : AM(LW) LOW TRACKING ADJ.
FIFT2 : LM(LW) LOW TRACKING ADJ.

FOS1 : AM(MW) LOW COVER ADJ.
FOS2 : LW LOW COVER ADJ.
FTC1 : AM(MW) HIGH TRACKING ADJ.
FTC2 : LW HIGH TRACKING ADJ.
FTC3 : AM(MW) HIGH COVER ADJ.
FTC4 : LW HIGH COVER ADJ.
FM OSC : FM LOW COVER ADJ.

4. ADJUSTMENT PROCEDURE

1) FM ADJUSTMENT

STEP	ITEM	CONNECTION	S.S.G FREQUENCY	RADIO FREQUENCY SETTING	ADJUSTING POINT	RESULT AND REMARK
1	IF center and T. H. D	Connect FM S.S.G to FM ANT. port, and connect D.T meter to output terminal of the set. (FIG. 1)	98MHz	98MHz	IIFT1	D. T minimum
2	FM coverage	Connect DC voltmeter to TP6 pin and GND		87.5MHz	FM OSC	3V
3	Auto selection level	Connect FM S.S.G (with a 23dBµV output level) to FM ANT. port, and DC voltmeter to pin 21 of IIC 1. (FIG.2)	98MHz	98MHz	ISVR1	0V
4	FM stereo separation	Connect FM S.S.G (with a 60dBµV output level) to FM ANT. port, and V.T.V.M to output terminal on oscilloscope. (FIG. 3)	98MHz	98MHz	ISVR3	If L-CH IS input, R-CH should be minimum and visa-versa.

* High coverage and tracking adjustment are not required.
〔Adjustment has already been made in the front end pack (VT 3615).〕

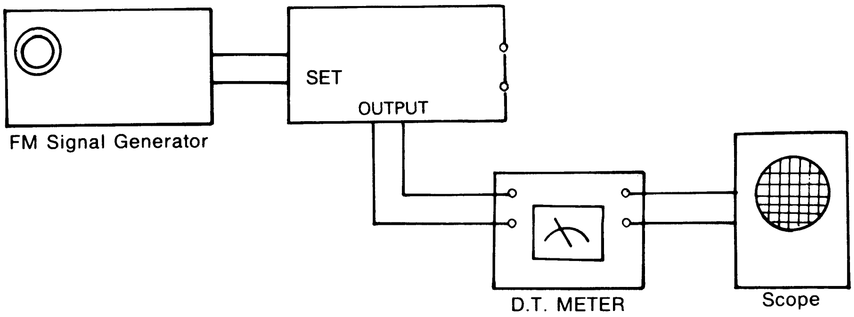

SET
OUTPUT
FM Signal Generator
D.T. METER
Scope

FIG. 1) IF CENTER AND T.H.D

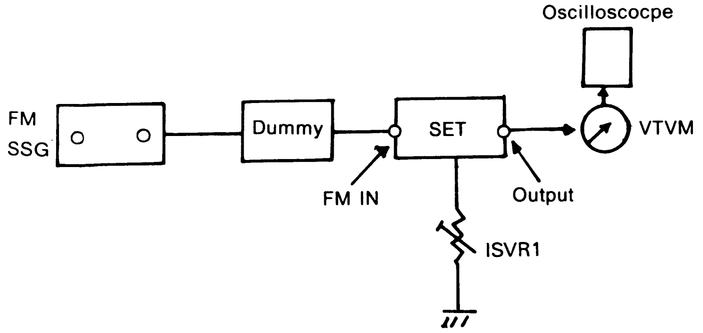

Oscilloscocpe
FM
SSG
Dummy
SET
VTVM
FM IN
Output
ISVR1

FIG. 2) AUTO SELECTION LEVEL

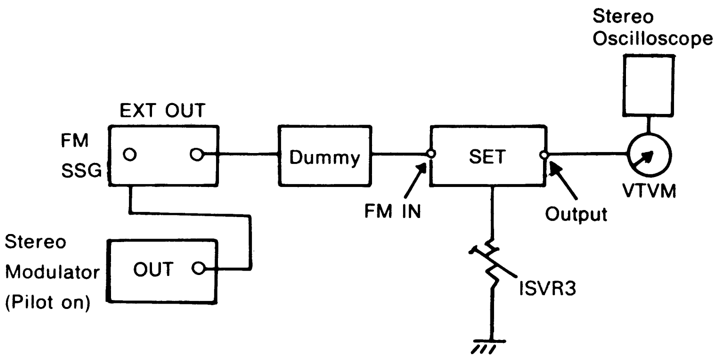

Stereo
Oscilloscope
EXT OUT
FM
SSG
Dummy
SET
VTVM
FM IN
Output
Stereo
Modulator
(Pilot on)
OUT
ISVR3

FIG 3) FM STEREO SEPARATION

2) AM ADJUSTMENT

- 2BAND (FM/AM)

STEP	ITEM	CONNECTION	S.S.G FREQUENCY	RADIO FREQ-UENCY SETTING	ADJUSTING POINT	RESULT AND REMARK
1	Intermidiate frequency (IF)	Connect the AM IF generator to the test Loop ANT. Connect the test loop ANT close to the loop ANT of set. Take the signal from AM IF output point. (IIC1 PIN NO.5)	450KHz	522KHz	IFT2	Maximum output and best "V" curve.
2			Repeat until no further improvement can be made.			
3	AM Frequ-ency Coverage	Connect DC voltmeter to TP4 and GND		522KHz	FOSC1	0.9V
4				1611KHz	FC 7	9V
5			Repeat step 3 and 4 several times.			
6	AM Tracking	See FIG 4	594KHz	594KHz	IFT1	Maximum output
7			1404KHz	140KHz	FCT1	〃
8			Repeat step 5 and 6 several times.			
9	AM Auto selection level	See FIG. 5	999KHz	999KHz	ISVR2	0V

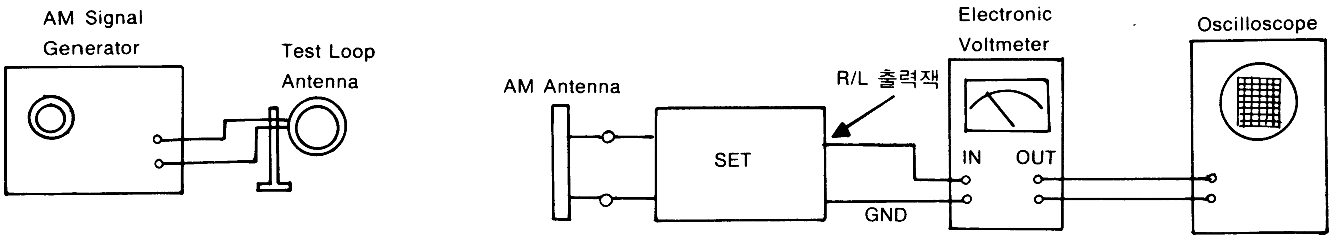

AM Signal Generator
Test Loop Antenna
AM Antenna
SET
R/L 출력잭
Electronic Voltmeter
IN
OUT
GND
Oscilloscope

FIG. 4) AM TRACKING

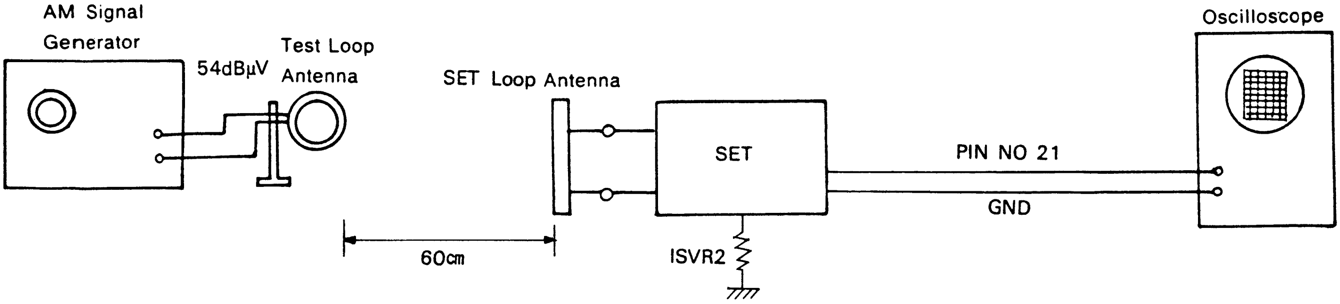

AM Signal Generator
54dBμV
Test Loop Antenna
SET Loop Antenna
60㎝
SET
ISVR2
PIN NO 21
GND
Oscilloscope

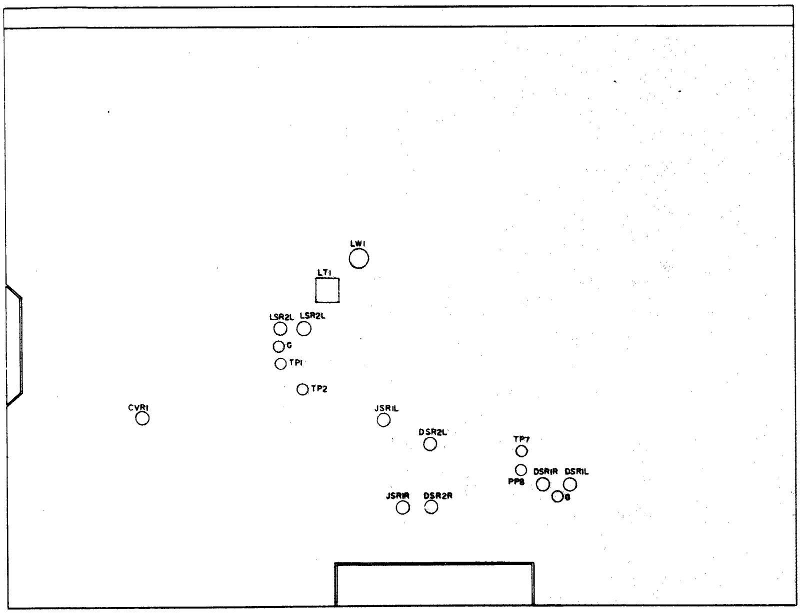
FIG. 5) AM AUTO SELECTION LEVEL

- 3BAND (FM/MW/LW)

STEP	ITEM	CONNECTION	S.S.G FREQUENCY	RADIO FREQ-UENCY SETTING	ADJUSTING POINT	RESULT AND REMARK
1	LW frequency coverage	See FIG. 4		146KHz	FOS2	0.9V
2				290KHz	FC 8	5V
3			Repeat step 1 and 2 several times.			
4	LW Tracking	See FIG. 5	160KHz	160KHz	IFT2	Maximum output
5			270KHz	270KHz	FCT2	〃
6			Repeat step 4 and 5 several times.			

2. TAPE SECTION

1. LOCATION OF ADJUSTMENT POINT (MAIN PCB ; PART SIDE)


LW1
LT1
LSR2L
LSR2L
G
TP1
TP2
CVR1
JSR1L
DSR2L
TP7
PP8
DSR1R
DSR1L
8
JSR1R
DSR2R

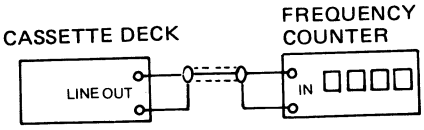
CVR1 : TAPE SPEED ADJ.
DSR 2L, R BAIS CURRENT ADJ.
JSR 1L, R PLAYBACK OUTPUT LEVEL ADJ.
DSR 2L, R SOURCE REC LEVEL ADJ.
DSR 1L, R SIGNAL CURRENT ADJ.
LT1 : BIAS OSC FREQUENCY ADJ.
LW1 : SIGNAL CURRENT ADJ.
TP1, TP2: BIAS CURRENT
SIGNAL CURRENT, ETC
TP7, 8 : PLAYBACK OUTPUT, TAPE
SPEED, ETC

2. ADJUSTMENT PROCEDURE

1) TAPE SPEED ADJUSTMENT

NOTE

1) MEASURING TAPE i) MTT-111 (OR EQUIVALENT)
(TAPE IN WHICH 3KH SIGNAL
IS RECORDED).
ii) MTT-5521 (OR EQUIVALENT)
2) CONNECTION OF MEASURING EQUIPMENTS (FIGURE1)


CASSETTE DECK
FREQUENCY COUNTER
LINE OUT
IN

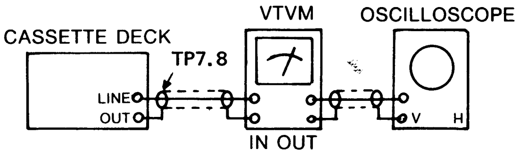
(FIG. 1)

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT	RESULT AND REMARK
1	Normal speed adjustment	Connect LINE OUTPUT to the frequency counter.	i)A-DECK : MTT-111 ii)Press PLAY button.	i)Adjust CSVR1	3KHz± 1%

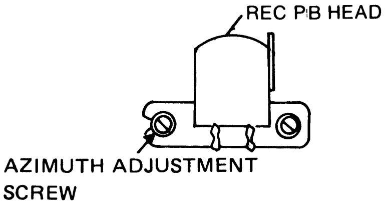
2) PLAY BACK LEVEL ADJUSTMENT

NOTE

1) BEFORE ADJUSTMENT, CLEAN P/R HEAD.
2) MEASURING TAPE i) MTT-114NA (OR EQUIVALENT ; 12.5KHz FOR AZIMUTH ADJUSTMENT).
   ii) MTT-150 (OR EQUIVALENT ; TAPE (200mwb/m) RECORDED BY DOLBY LEVEL)
3) DOLBY NR SW OFF
4) CONNECTION OF MEASURING EQUIPMENTS (FIGURE 2).



(FIG. 2)



(FIG. 3)

• DECK A

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTING POINT	RESULT AND REMARK
1	AZIMUTH	Connect LINE OUTPUT to the VTVM and SCOPE.	Insert MTT-114NA into DECK A.	Adjust adjustment screw [RIGHT] as in the FIG. 3.	Max output and same phase. (L, R channel) Fix screw with lock screw after adjustment.
2	PLAYBACK OUTPUT LEVEL	〃	Play MTT-150 in the DECK A	JSVR 1L, R	245mV

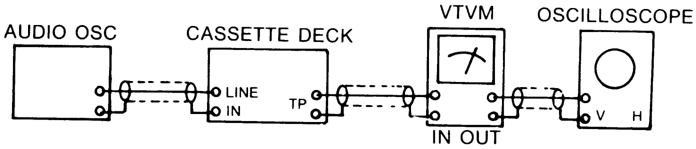
• DECK B

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTING POINT	RESULT AND REMARK
1	AZIMUTH	Connect LINE OUTPUT to the VTVM and SCOPE.	Insert MTT-114NA into DECK B. and press PLAY.	Adjust adjustment screw (LEFT) as in the FIG. 3.	Max output and same phase. (L, R channel) Fix screw with lock screw after adjustment.

3) RECORD AND PLAYBACK ADJUSTMENT

NOTE

1) CONNECT MEASURING EQUIPMENTS AS FIGURE (4).
2) SET DOLBY NR SWITCH TO OFF.
3) CONNECT TP7 AND TP8 : WHEN ADJUSTING RECORDING CURRENT.
4) MEASURING TAPE i) MTT-5521 (OR EQUIVALENT : FOR NORMAL RECORD)



(FIG. 4)

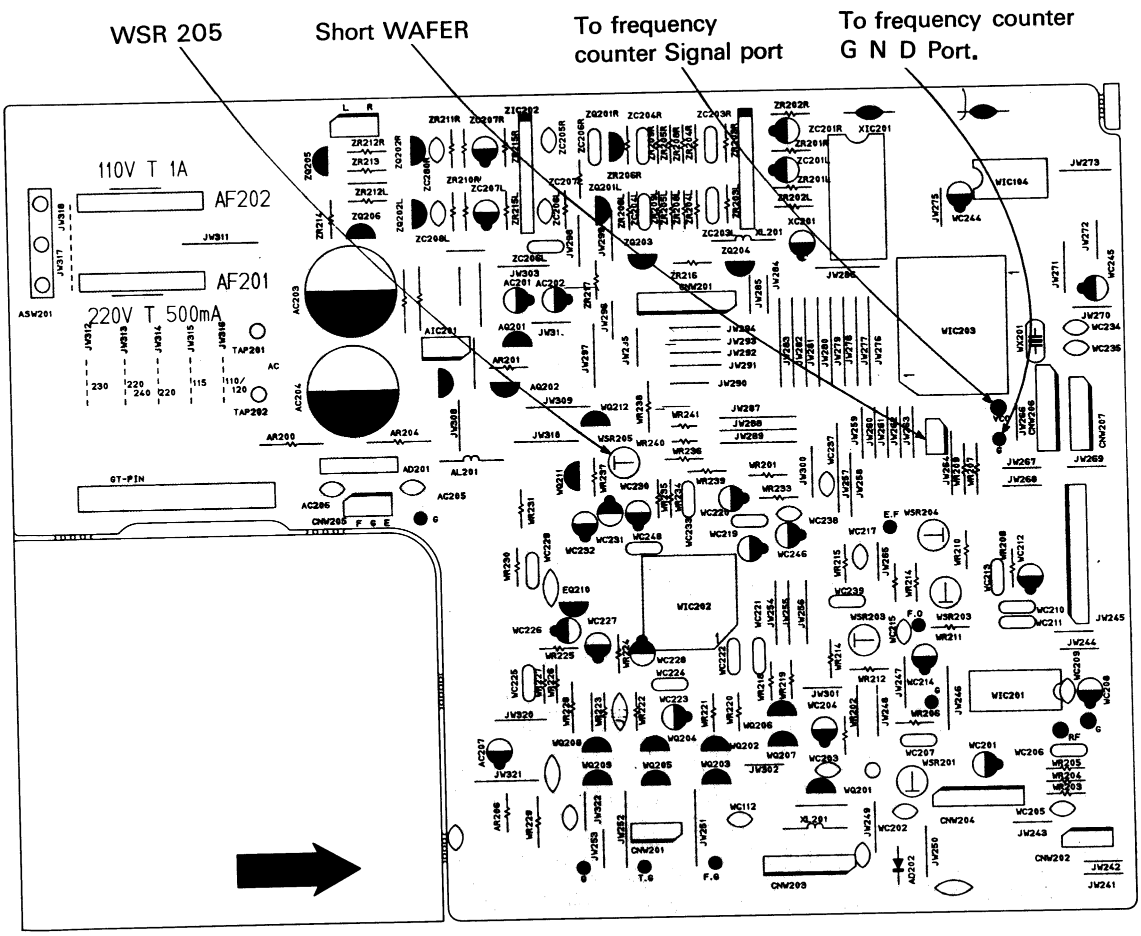
STEP	ITEM	INPUT SIGNAL	CONNECTION	PREPARATION	ADJUSTING POINT	RESULT AND REMARK
1	BIAS OSC FREQ.	400Hz, 200mV from audio OSC to AUX.	Frequency counter TP1(TP2), GND	Insert MTT-5521 into DECK A and press REC button.	LT1(Bias OSC coil)	105KHz
2	BIAS CURRENT		Short LW1. TP1, 2 and GND to VTVM. (L-CH, R-CH)	〃	LSR2L, R	52mV
3	SOURCE REC LEVEL	400Hz, 200mV from audio OSC to AUX.	Connect VTVM to TP7, 8 and GND.	〃	DSR2L, R	245mV
4	SIGNAL CURRENT	〃	Connect VTVM to TP1, 2 and GND.	Insert MTT-5521 into DECK-A and press REC button, short LW1 connector,	DSR1L, R	5mV

3. CD SECTION

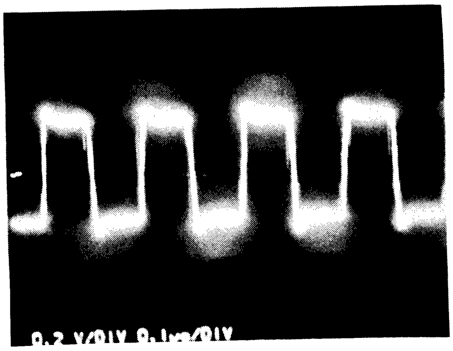
1. VCO ADJUSTMENT

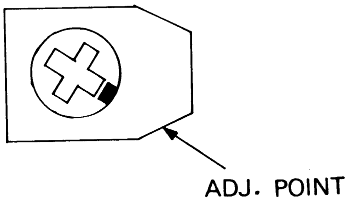
1) Turn the power on.
2) Adjust with a disc loaded while stopped.
3) Connect negative (−) terminal on the frequency counter to TP-G.
4) Connect positive (+) terminal on the frequency counter to TP-VCO.
5) Confirm the figure on the counter and short CNW 220.
6) Adjust WSR205 so that the frequency counter reads 4.325MHz~4.330MHz.
7) Disconnect CNW 220 after adjustment.

PARTS SIDE


WSR 205
Short WAFER
To frequency counter Signal port
To frequency counter G N D Port.
110V T 1A
AF202
AF201
220V T 500mA
WIC202
WIC203
WIC201
WIC104
XIC201
WSR205
CNW205
CNW201
CNW203
CNW204
CNW202
VCO
G

VCO

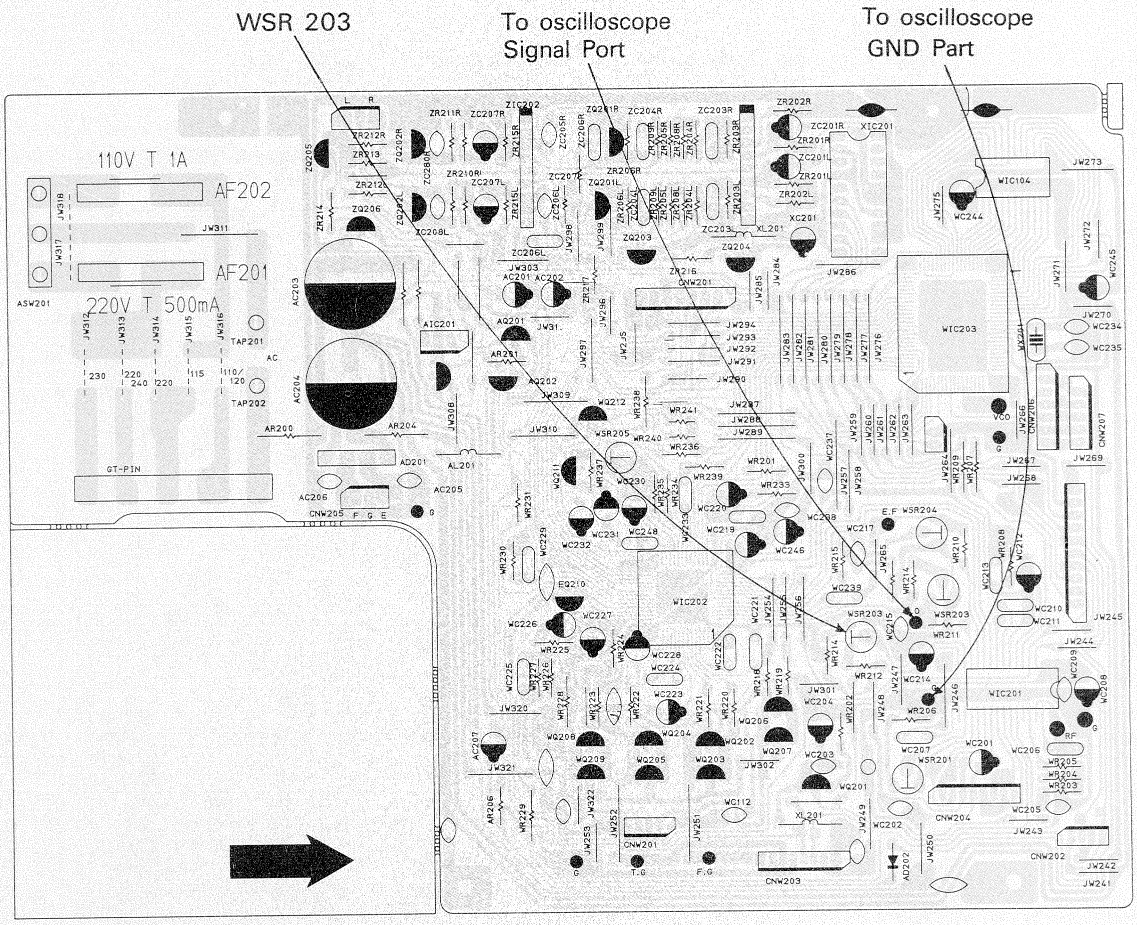




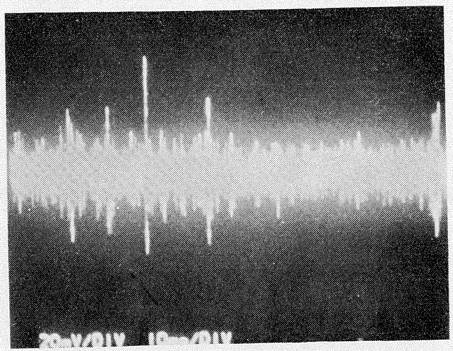
2. FOCUS BIAS ADJUSTMENT

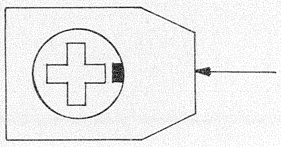
1) Adjust the unit on the stop mode.
2) Set VOLT/DIV on the oscilloscope to 100mV.
3) Set TIME/DIV on the oscilloscope to 20μS.
4) Connect positive (+) terminal on the oscilloscope to TP-F.O and connect negative (−) terminal on the oscilloscope to TP-G.
5) Adjust WSR203 so that the center of the waveform locates at 100mV.

PARTS SIDE


WSR 203
To oscilloscope
Signal Port
To oscilloscope
GND Part
110V T 1A
AF202
AF201
220V T 500mA
AC203
AC204
WIC203
WIC202
WIC201
WIC104
XIC201
GT-PIN
CNW201
CNW202
CNW203
CNW204
CNW205
E.F WSR204
WSR203
WSR201
WSR205
T.G
F.G
G
RF
VCO

FOCUS BIAS

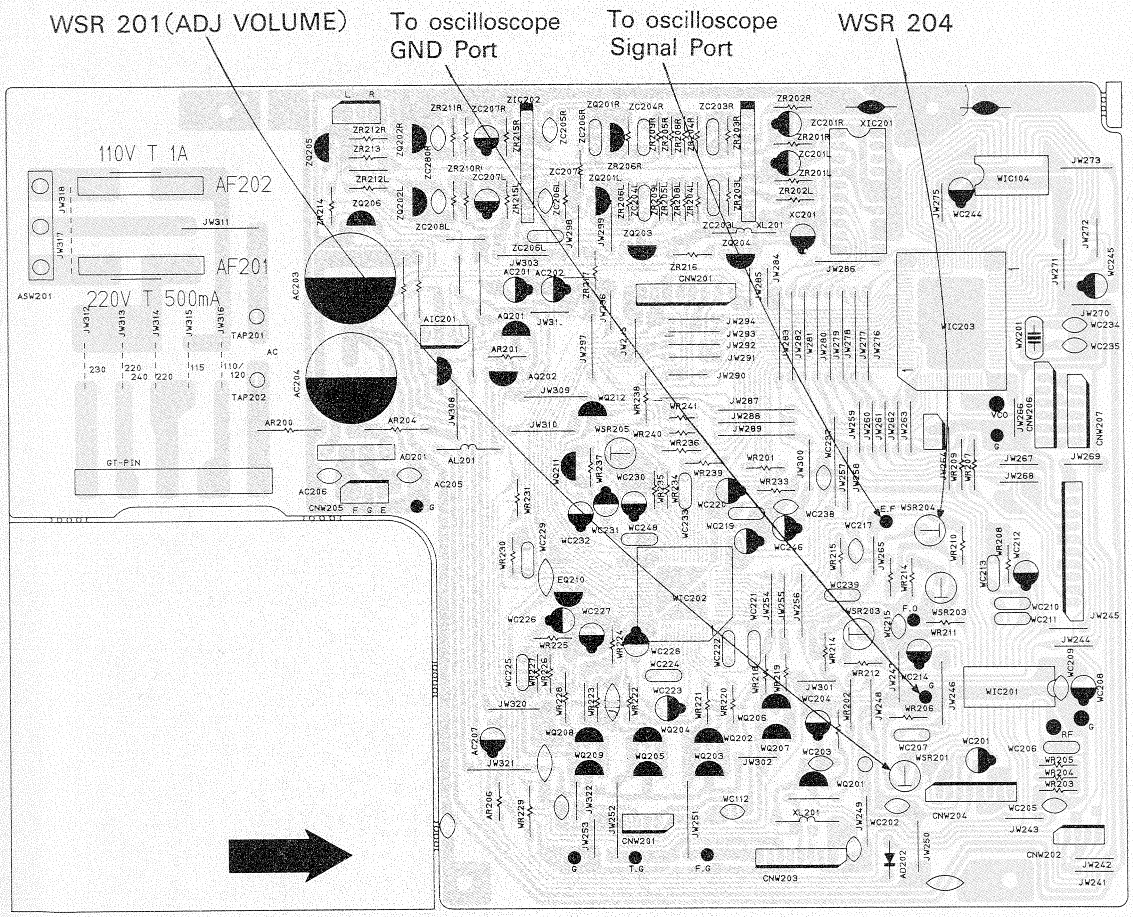


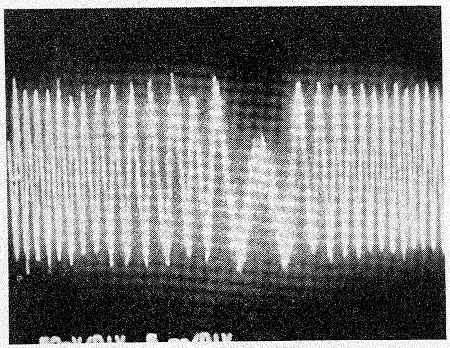


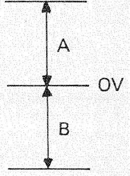
3. E-F BALANCE ADJUSTMENT

1) Set VOLT/DIV on the oscilloscope to 20mV
2) Set TIME/DIV on the oscilloscope to 5mS.
3) Connect positive (+) terminal on the oscilloscope to TP- EF.
4) Connect negative (−) terminal on the oscilloscope to TP-G.
5) Load a disc and adjust during play.
6) Adjust semi-VR (VR204) to the counter-clockwise direction as much as possible.
7) Adjust WSR201 st that the center of peak to peak waveform locates 0V.
8) Set WSR204 to the place it was before adjustment.

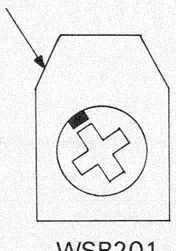
PARTS SIDE


WSR 201(ADJ VOLUME)
To oscilloscope GND Port
To oscilloscope Signal Port
WSR 204
110V T 1A
AF202
AF201
220V T 500mA
E.F
WSR204
WSR201
G
RF
F.O
WSR203
WSR205
T.G
F.G





A=B



WSR201

4. FOCUS GAIN ADJUSTMENT

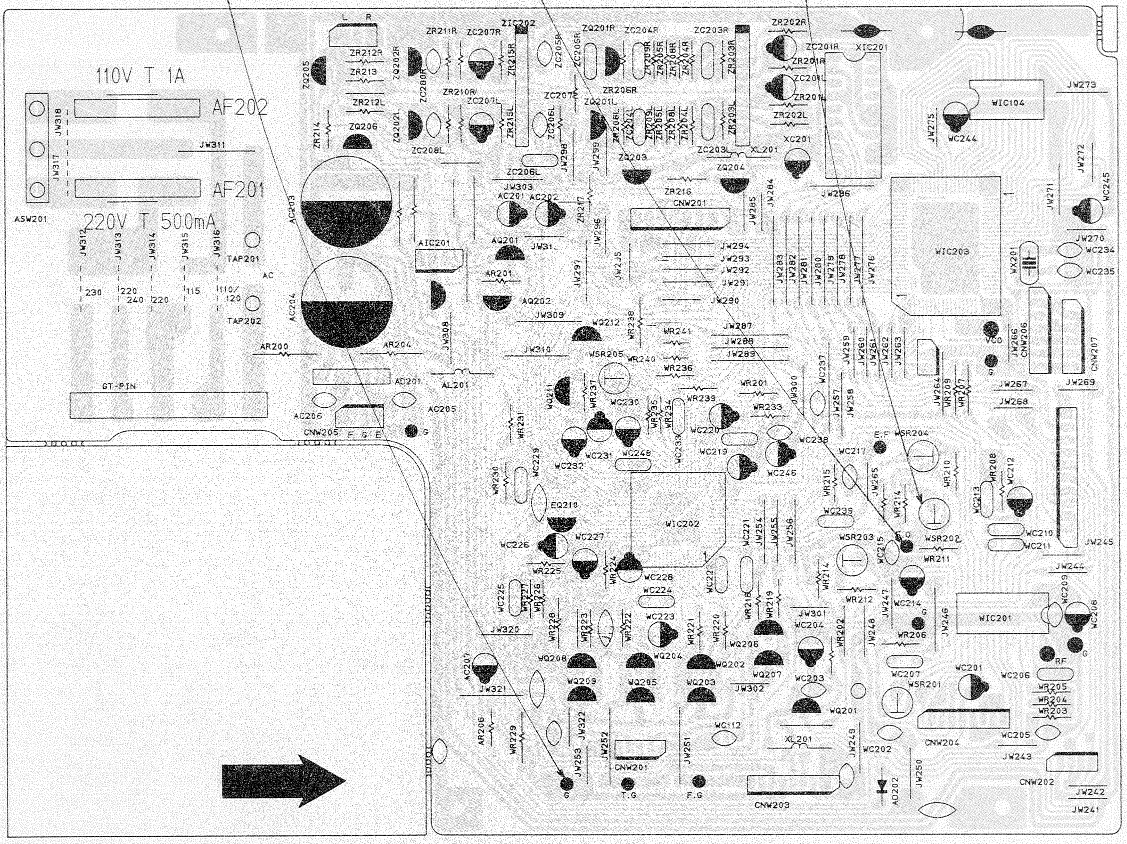
1) Press PLAY button.
2) Connect negative (−) terminal on the oscilloscope to TP-G.
3) Connect positive (+) terminal on the oscilloscope to TP-F.O.
4) Set VOLT/DIV on the oscilloscope to 200mV.
5) Set TIME/DIV on the oscilloscope to 10mS.
6) Adjust **WSR202** so that the center of peak to peak waveform locates 100mV.

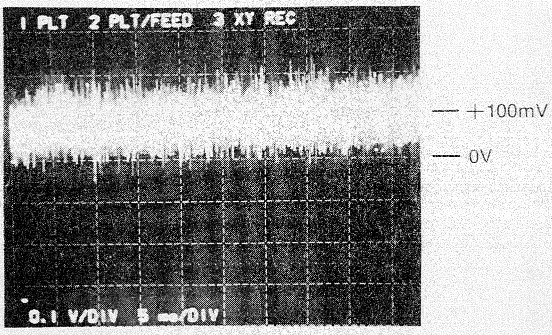
PARTS SIDE

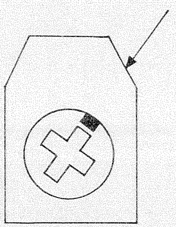
To oscilloscope GND Port

To oscilloscope Signal Port

WSR 202


110V T 1A
AF202
AF201
220V T 500mA
ASW201
JW311
JW317
JW318
TAP201
TAP202
AC
230
220
240
115
110/120
GT-PIN
AC203
AC204
AR200
AR204
AD201
AL201
AC205
AC206
CNW205
F G E
G
ZIC202
XIC201
WIC104
WIC203
WIC202
WIC201
AIC201
CNW201
CNW202
CNW203
CNW204
CNW206
WSR205
WSR203
WSR204
WSR202
WSR201
XL201
VCO
E.F
F.O
RF
T.G
F.G
G

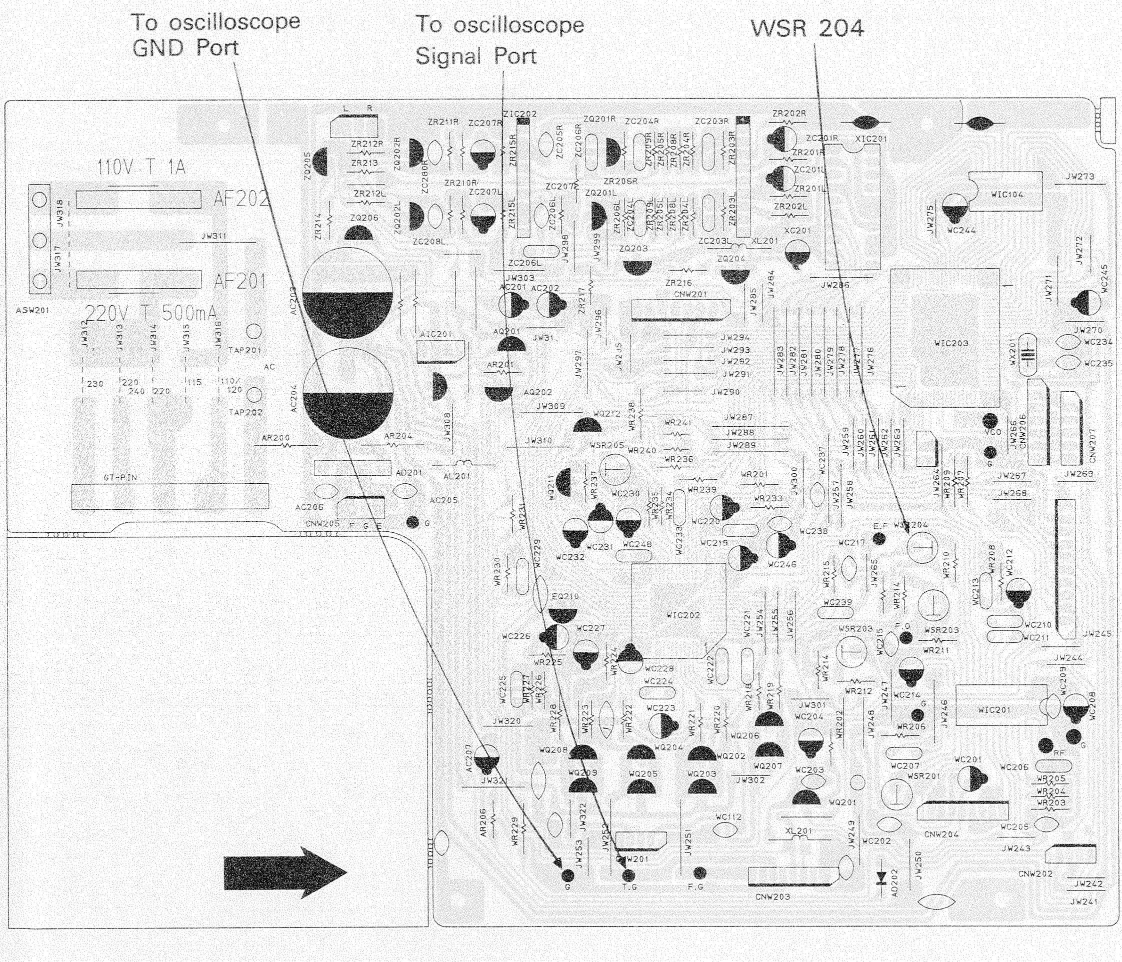


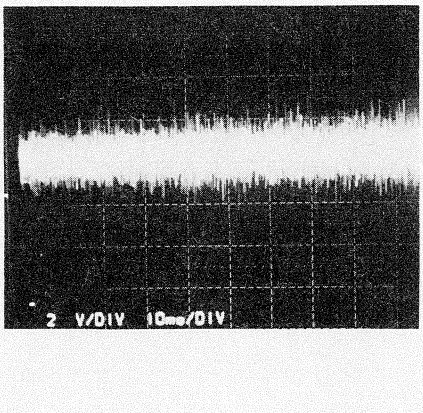


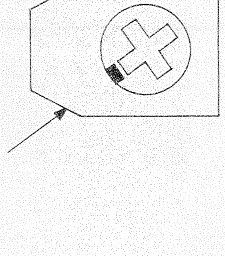
5. TRACKING GAIN ADJUSTMENT

1) Press PLAY button.
2) Connect negative (−) terminal on the oscilloscope to TP-G.
3) Connect positive (+) terminal on the oscilloscope to TP-TG.
4) Set VOLT/DIV on the oscilloscope to 0.5V.
5) Set TIME/DIV on the oscilloscope to 1mS.
6) Adjust WSR204 so that peak to peak waveform becomes 2.0V±0.1V.

PARTS SIDE

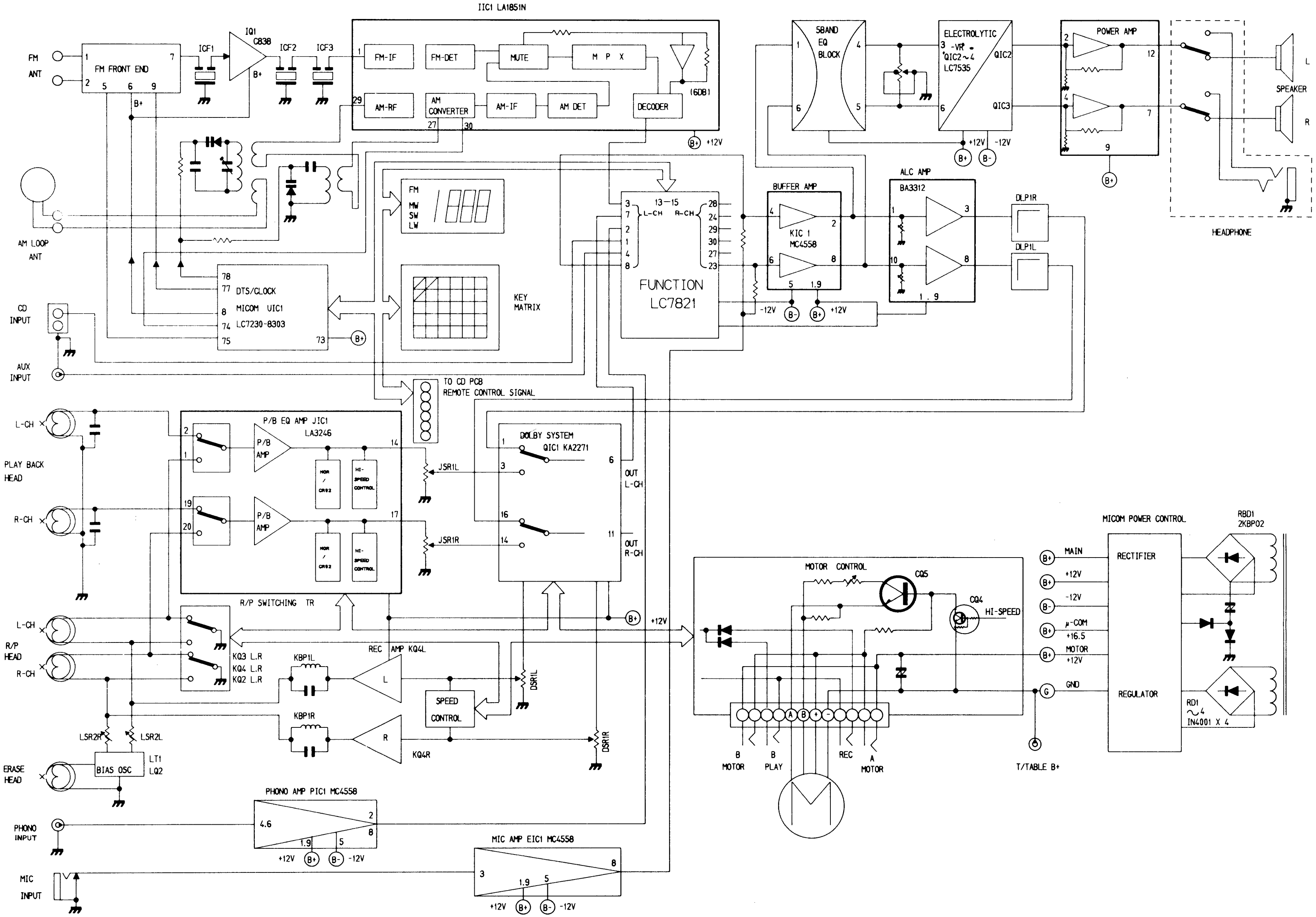

To oscilloscope
GND Port
To oscilloscope
Signal Port
WSR 204
110V T 1A
AF202
AF201
220V T 500mA
WIC203
WIC202
WIC201
WSR205
WSR204
WSR203
WSR201
G
T.G
F.G



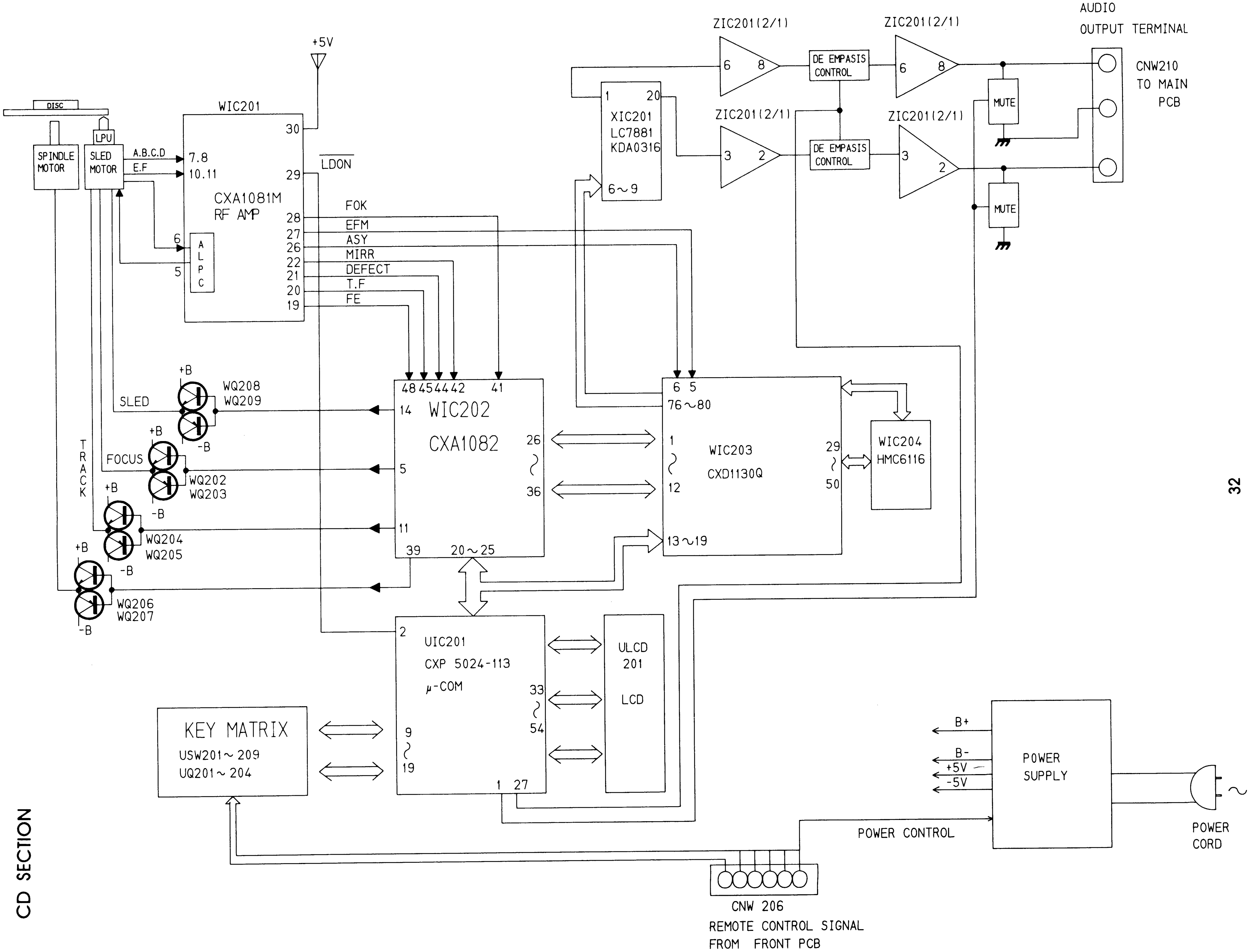


BLOCK DIAGRAM

MAIN SECTION


FM ANT
FM FRONT END
ICF1
IQ1 C838
ICF2
ICF3
B+
IIC1 LA1851N
FM-IF
FM-DET
MUTE
M P X
(6DB)
AM-RF
AM CONVERTER
AM-IF
AM DET
DECODER
+12V
AM LOOP ANT
CD INPUT
AUX INPUT
DTS/CLOCK
MICOM UIC1
LC7230-8303
FM
MW
SW
LW
KEY MATRIX
TO CD PCB
REMOTE CONTROL SIGNAL
13-15
L-CH
R-CH
FUNCTION
LC7821
5BAND EQ BLOCK
ELECTROLYTIC -VR-
QIC2~4
LC7535
QIC2
QIC3
-12V
POWER AMP
SPEAKER
L
R
HEADPHONE
BUFFER AMP
KIC 1
MC4558
ALC AMP
BA3312
DLP1R
DLP1L
PLAY BACK HEAD
L-CH
R-CH
P/B EQ AMP JIC1
LA3246
P/B AMP
NOR / CRO2
HI-SPEED CONTROL
JSR1L
JSR1R
DOLBY SYSTEM
QIC1 KA2271
OUT L-CH
OUT R-CH
R/P SWITCHING TR
R/P HEAD
KQ3 L.R
KQ4 L.R
KQ2 L.R
KBP1L
KBP1R
REC AMP KQ4L
KQ4R
SPEED CONTROL
DSR1L
DSR1R
LSR2R
LSR2L
ERASE HEAD
BIAS OSC
LT1
LQ2
PHONO AMP PIC1 MC4558
PHONO INPUT
MIC AMP EIC1 MC4558
MIC INPUT
MOTOR CONTROL
CQ5
CQ4
HI-SPEED
B MOTOR
B PLAY
REC
A MOTOR
T/TABLE B+
MICOM POWER CONTROL
MAIN
µ-COM +16.5
MOTOR +12V
GND
RECTIFIER
REGULATOR
RBD1
2KBP02
RD1
IN4001 X 4

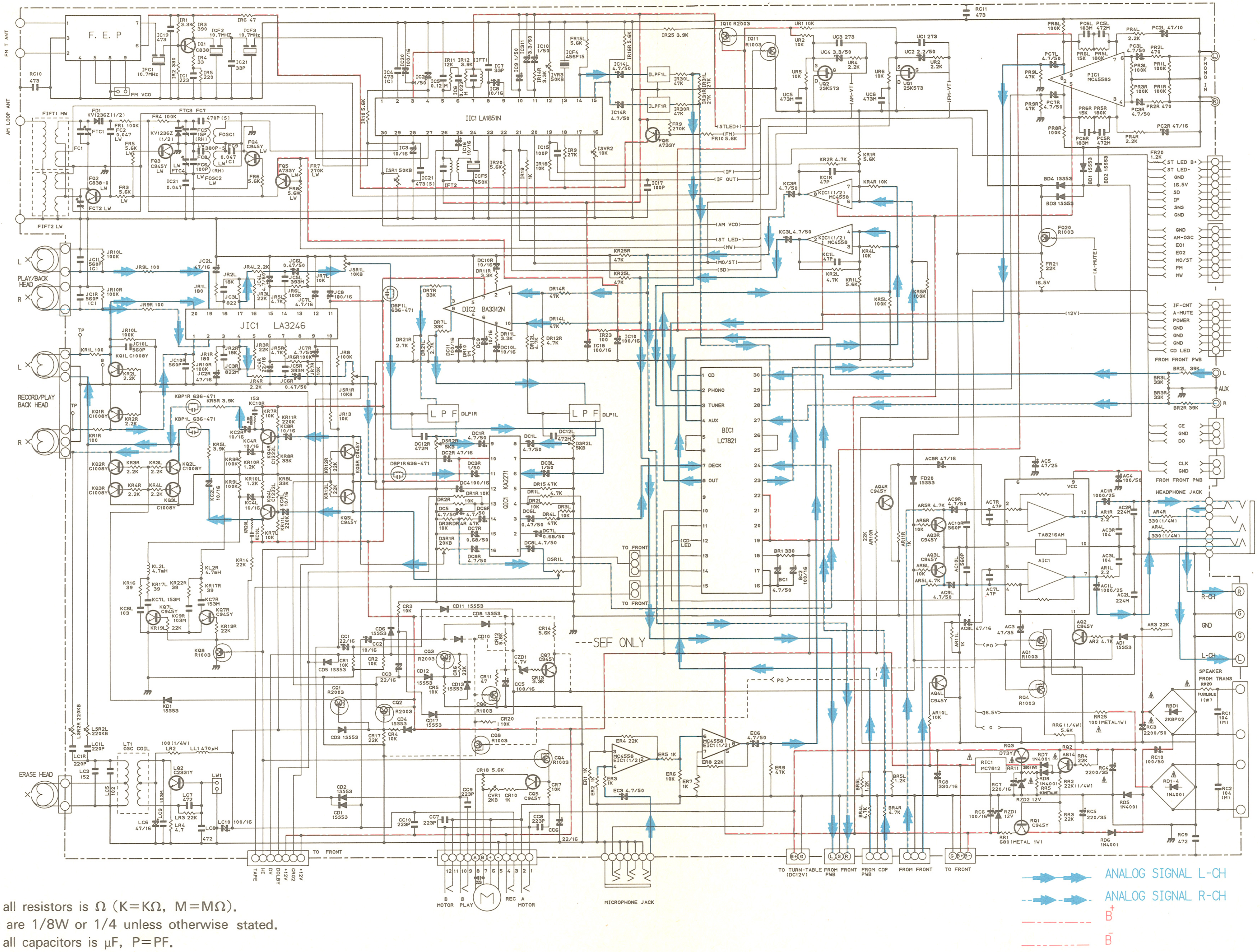
]


DISC
SPINDLE MOTOR
SLED MOTOR
LPU
A.B.C.D
E.F
+5V
WIC201
CXA1081M
RF AMP
7.8
10.11
30
29
LDON
28 FOK
27 EFM
26 ASY
22 MIRR
21 DEFECT
20 T.F
19 FE
ALPC
6
5
+B
-B
SLED
WQ208
WQ209
FOCUS
WQ202
WQ203
TRACK
WQ204
WQ205
WQ206
WQ207
WIC202
CXA1082
48 45 44 42
41
14
5
11
26 ~ 36
39
20~25
XIC201
LC7881
KDA0316
1
20
6~9
ZIC201(2/1)
6
8
3
2
DE EMPASIS CONTROL
MUTE
AUDIO OUTPUT TERMINAL
CNW210
TO MAIN PCB
WIC203
CXD1130Q
6 5
76~80
1 ~ 12
13~19
29 ~ 50
WIC204
HMC6116
UIC201
CXP 5024-113
μ-COM
2
9 ~ 19
33 ~ 54
1 27
ULCD 201
LCD
KEY MATRIX
USW201~209
UQ201~204
B+
B-
+5V
-5V
POWER SUPPLY
POWER CORD
~
POWER CONTROL
CNW 206
REMOTE CONTROL SIGNAL
FROM FRONT PCB

CD SECTION

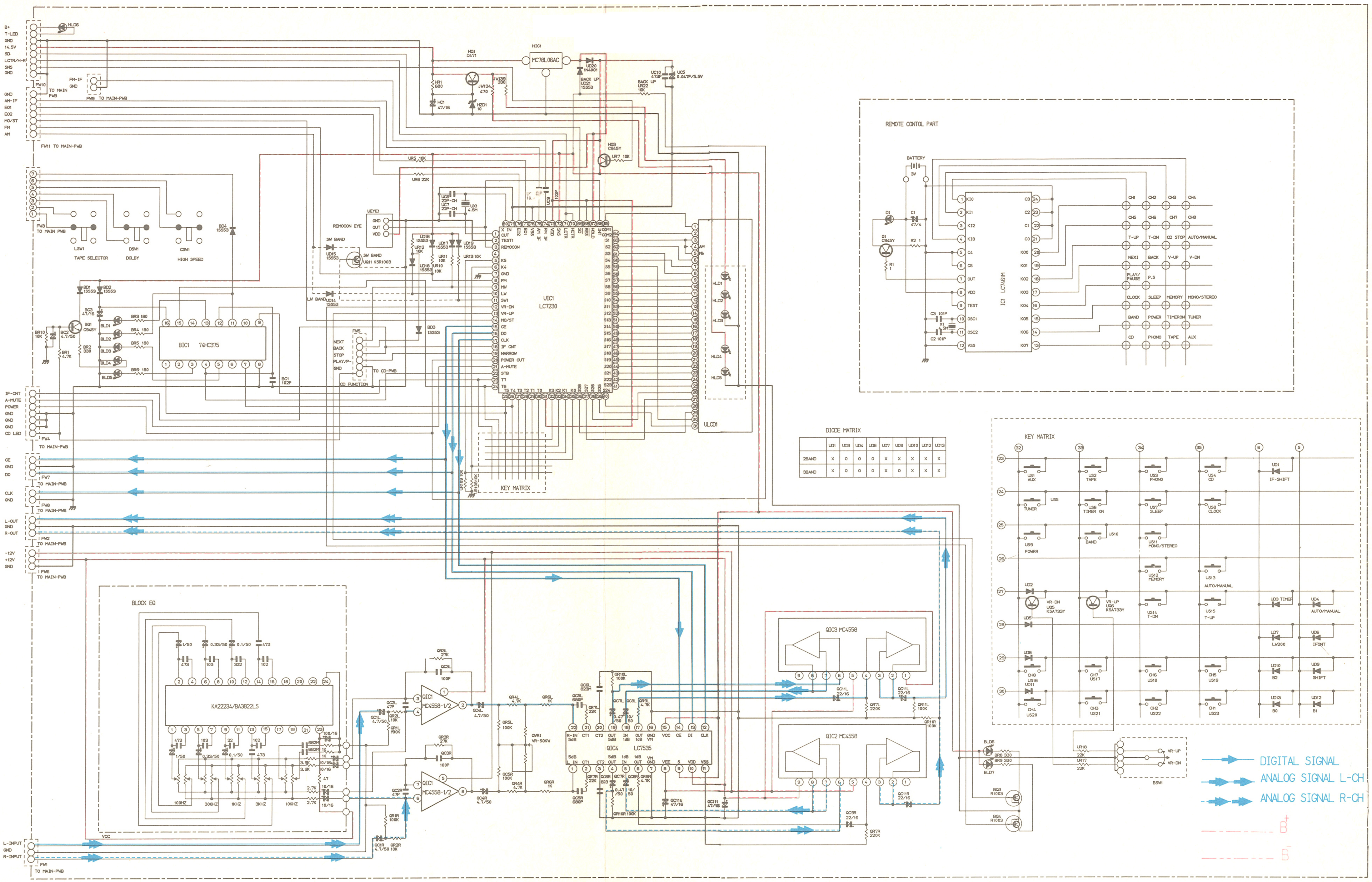
SCHEMATIC DIAGRAM

1. MAIN SECTION


F. E. P
FM T ANT
AM LOOP ANT
FM VCO
IIC1 LA1851N
ILPF1L
ILPF1R
PIC1 MC4558S
KIC1(1/2) MC4558
PLAY/BACK HEAD
RECORD/PLAY BACK HEAD
JIC1 LA3246
DIC2 BA3312N
QIC1 KA2271
BIC1 LC7821
L P F
1 CD
2 PHONO
3 TUNER
4 AUX
7 DECK
8 OUT
TA8216AM
AIC1
ERASE HEAD
OSC COIL
-SEF ONLY
EIC1(1/2) MC4558
RIC1 MC7812
SPEAKER FROM TRANS
HEADPHONE JACK
FROM FRONT PWB
TO FRONT
MICROPHONE JACK
MOTOR
PLAY
REC
TO TURN-TABLE (DC12V)
FROM FRONT PWB
FROM CDP PWB
FROM FRONT
R-CH
GND
L-CH
AUX
PHONO IN
ANALOG SIGNAL L-CH
ANALOG SIGNAL R-CH
B+
B-

1. The unit of all resistors is Ω (K=KΩ, M=MΩ).
   All resistors are 1/8W or 1/4 unless otherwise stated.
2. The unit of all capacitors is µF, P=PF.
3. The schematic diagram is subject to change for improvement without prior notice.

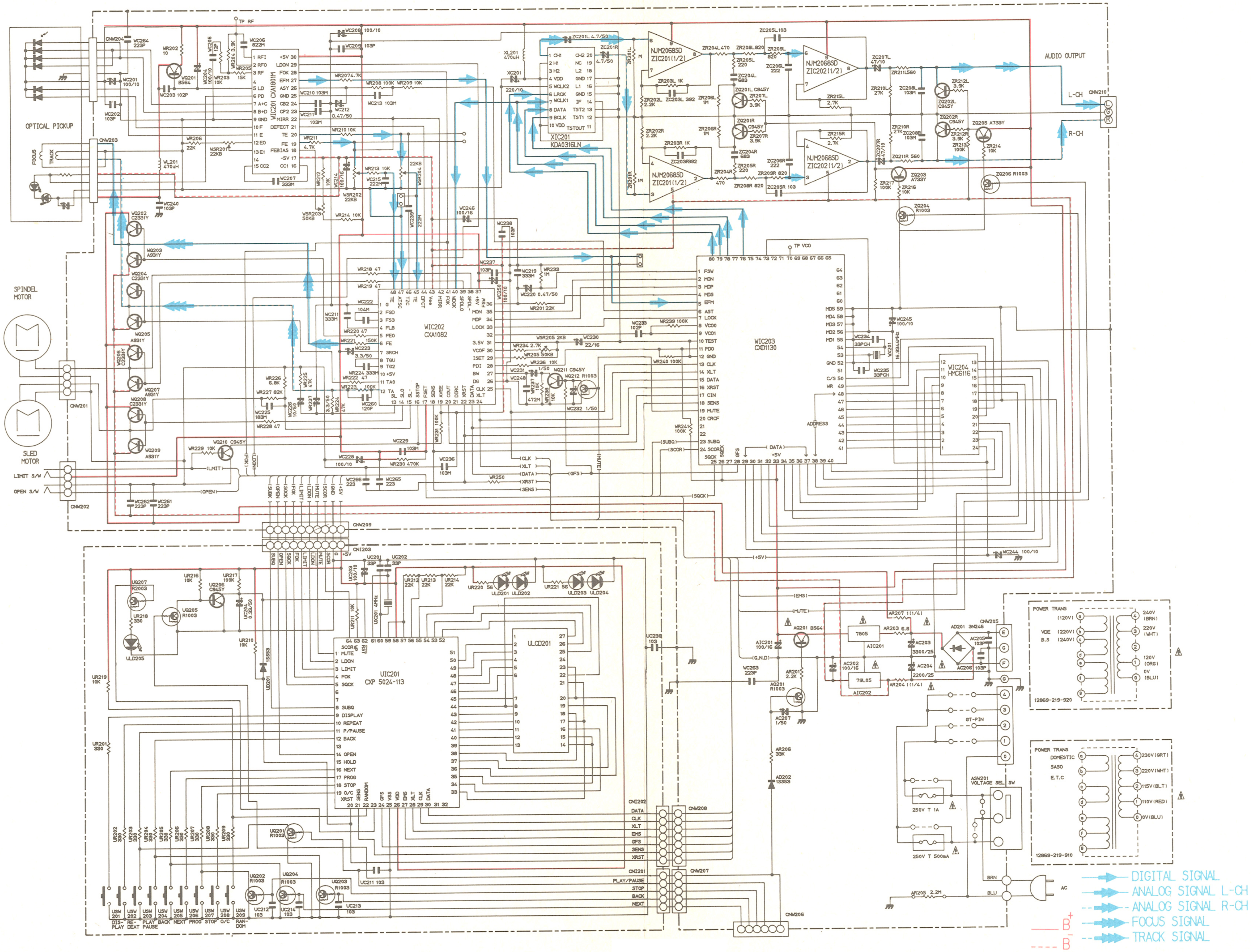
2. FRONT SECTION


REMOTE CONTOL PART
BATTERY
3V
IC1 LC7461M
KEY MATRIX
BLOCK EQ
KA22234/BA3822LS
100HZ
300HZ
1KHZ
3KHZ
10KHZ
BIC1 74HC375
UIC1 LC7230
HIC1 MC78L05AC
QIC1 MC4558-1/2
QIC2 MC4558
QIC3 MC4558
QIC4 LC7535
ULCD1
REMOCON EYE
SW BAND
LW BAND
TAPE SELECTOR
DOLBY
HIGH SPEED
TO MAIN PWB
TO CD-PWB
CD FUNCTION
L-INPUT
GND
R-INPUT
DIGITAL SIGNAL
ANALOG SIGNAL L-CH
ANALOG SIGNAL R-CH
B+
B-

DIODE MATRIX

	UD1	UD3	UD4	UD6	UD7	UD9	UD10	UD12	UD13
2BAND	X	O	O	O	X	X	X	X	X
3BAND	X	O	O	O	X	O	X	X	X

3. CD SECTION


OPTICAL PICKUP
FOCUS
TRACK
SPINDEL MOTOR
SLED MOTOR
LIMIT S/W
OPEN S/W
CNW203
CNW204
CNW201
CNW202
CNW209
CNI203
WIC201 CXA1081M
WIC202 CXA1082
WIC203 CXD1130
WIC204 HM6116
XIC201 KDA0316LN
NJM2068SD ZIC201(1/2)
NJM2068SD ZIC202(1/2)
AUDIO OUTPUT
L-CH
R-CH
CNW210
UIC201 CXP 5024-113
ULCD201
ULD201
ULD202
ULD203
ULD204
ULD205
POWER TRANS
12869-219-920
12869-219-910
7805
79L05
AIC201
AIC202
ASW201 VOLTAGE SEL. SW
250V T 1A
250V T 500mA
AC
BRN
BLU
CNW205
CNW206
CNW207
CNW208
CNI201
CNI202
USW 201
USW 202
USW 203
USW 204
USW 205
USW 206
USW 207
USW 208
USW 209
DIS-PLAY
RE-PEAT
PLAY PAUSE
BACK
NEXT
PROG
STOP
O/C
RAN-DOM
DIGITAL SIGNAL
ANALOG SIGNAL L-CH
ANALOG SIGNAL R-CH
FOCUS SIGNAL
TRACK SIGNAL
B+
B-

IC AND TR VOLTAGE CHART

LC7230-8303 (μCOM) : UIC 1

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLT.	2.6	0	6.2	0	0	0	0	12	3.6	12	0	0	0	0	0	0
PIN NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
VOLT.	0	0	0	5.6	5.6	0	5.1	5.1	0	5.1	5.3	5.6	5.3	5.3	5.6	0
PIN NO.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
VOLT.	0	0	0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
PIN NO.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
VOLT.	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
PIN NO.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
VOLT.	2.8	6.2	6.3	5.6	12.3	0	0	0	5.6	0	0	0	1.0	1.0	0	2.8

LA1851 N (AM, FM-IF) : IIC1

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VOLT.	2.4	2.4	12.3	2.3	1.2	1.2	12.3	2.4	2.2	10.8	10.8	0.6	10.2	2.6	2.6
PIN NO.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
VOLT.	1.5	0	0.6	0	0.8	12.3	11.8	0	2.4	0.7	12.3	2.3	2.3	2.3	1.0

LC7821N (FUNCTION IC) : BIC 1

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VOLT.	0	0	0	0	0	0	0	0	0	12.2	0	-12.4	0	0	0
PIN NO.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
VOLT.	0	0	12.2	12.2	12.2	0	12.2	0	0	0	0	0	0	0	

KA2271 (DOLBY IC) : DIC 1

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLT.	6.3	0.5	6.4	2.4	1.2	6.2	0	6.2	6.2	12.3	6.2	6.2	0	6.4	0.4	6.3

CXP5024-113 (μCOM) : UIC201

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLT.	0	0	-0.3	5	5	0	0	1	5	5	5	5	5	5	5	5
PIN NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
VOLT.	5	5	5	5	0	5	5	5	0	5	0	5	5	0	2.5	2.5
PIN NO.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
VOLT.	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN NO.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
VOLT.	2.5	2.5	2.5	2.5	2.5	2.5	3.3	1.7	0	5	0	2.3	2.6	5.1	5	0

CXD1130Q (DSP) : WIC 203

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLT.	0	0	0	0	2.4	2.5	0	2.3	2.4	0	2.7	0	4.2	4.9	0.6	5.0
PIN NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
VOLT.	0.1	1.2	3.8	0	0	3.7	0	0	5.0	5.0	2.5	0	2.4	2.6	2.4	2.0
PIN NO.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
VOLT.	5.0	2.1	1.1	0	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0
PIN NO.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
VOLT.	4.3	2.3	2.5	0	2.2	2.3	0	5.0	0	0	0	1.2	1.2	3.7	3.7	1.9
PIN NO.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
VOLT.	1.9	1.9	5.0	2.5	2.5	2.5	5.0	5.0	5.0	5.0	2.5	2.5	2.5	0	2.5	2.5

CXA1082AQ (SERVO SIGNAL PROCESSOR) : WIC202

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLT.	0	0	0	0	-0.7	0	0.4	0	0	5.0	0.5	0	0	0.6	0	-0.8
PIN NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
VOLT.	-4.2	1.1	- 5	0.1	5.0	0.5	0.6	4.9	4.2	0	3.1	3.1	2.3	2.3	3.6	2.1
PIN NO.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
VOLT.	0	0	0	0	5.0	0	-0.5	1.5	0	0	- 5	- 4	0	0	0	0

TA8216H (POWER IC) : AIC1

PIN NO.	1	2	3	4	5	6
VOLT.	1.5	0	0	0	1.5	11.3
PIN NO.	7	8	9	10	11	12
VOLT.	15.9	5	33	0	4.2	15.6

BA3312N (EQ IC) : DIC 2

PIN NO.	1	2	3	4	5
VOLT.	0	0.6	5.8	0	0
PIN NO.	6	7	8	9	10
VOLT.	12.2	12.2	5.7	0.6	0

LC74HC375 (LCD DRIVER) : BIC 1

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLT.	5.5	4.8	0	0	0	4.8	5.5	0	5.5	0	4.1	0	0	4.8	5.5	4.8

LA3246 (PLAY IC) : JIC 1

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOLT.	0	0	0.6	5.3	5.3	0	0.1	5.2	0	0	12.3	12.3	11.5	0	0	5.1	5.1	0.6	0	0

LC7535 E/C VOLUME IC) : QIC 4

PIN NO.	1	2	3	4	5	6	7	8	9	10	11
VOLT.	0	0	0	0	0	0	0	-12.3	5.2	12.3	0
PIN NO.	12	13	14	15	16	17	18	19	20	21	22
VOLT.	0	0	0	5.2	0	0	0	0	0	0	0

MC4558S (OP AMP) : EIC 1, KIC 1, PIC 1

PIN NO.	1	2	3	4	5	6	7	8	9
VOLT.	12.3	0	0	0	-12.3	0	0	0	12.3

CXA1081M (RF AMP) : WIC 201

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VOLT.	0	0	0	4.6	4.5	– 5	0	0	0	0	0	0	0	0	– 1
PIN NO.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
VOLT.	1.2	– 5	-0.4	-0.4	0	- 4	0	-3.6	0	0	2.5	2.4	0.1	5	5

HM6116LM (S-RAM) : WIC 204

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLT.	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	4.0	1.2	0	2.1	2.0	2.4	2.6
PIN NO.	17	18	19	20	21	22	23	24								
VOLT.	2.4	0	2.5	2.3	4.3	2.5	2.5	5.0								

KDA 0316LN (D/A CONVERTER) : XIC 201

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOLT.	2.5	5.0	5.0	5.0	0.1	2.5	2.5	0	2.5	5.0	0	0	0	5.0	0	0	0	0	0	2.5

NJM2068 SD (OP AMP) : ZIC201, 202

PIN NO.	1	2	3	4	5	6	7	8	9
ZIC201	5	0.4	0.3	0.3	-5.1	0.3	0.3	0.4	5
ZIC202	5.0	0.4	0.4	0.4	-5.1	0.4	0.4	0.4	5

MC78M05 : AIC201

IN	GND	OUT
10.9	0	5.0

MC79M05 : AIC202

GND	IN	OUT
0	-12.5	-5.0

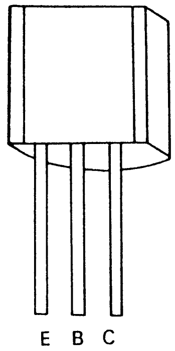
MC7812 : RIC1

IN	GND	OUT
21.6	0	12

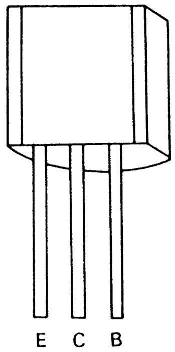
IC AND TR INTERNAL DIAGRAM

● TR AND REGULATOR IC

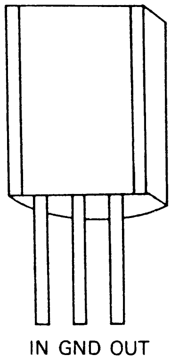
KSB 564
KSC 945
KSA 733



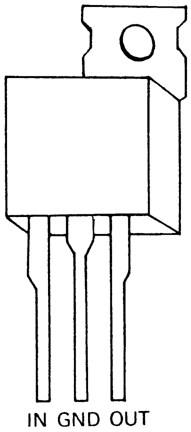
KSA 931
KSR 2003
KSR 1003
KSC 2331



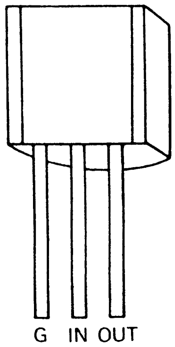
MC 78M06AC



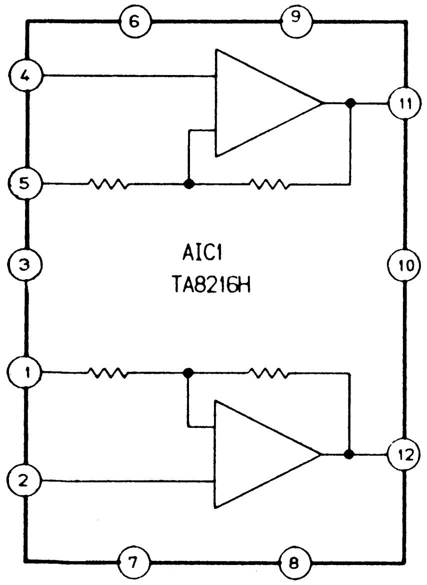
MC7812C
MC7805C



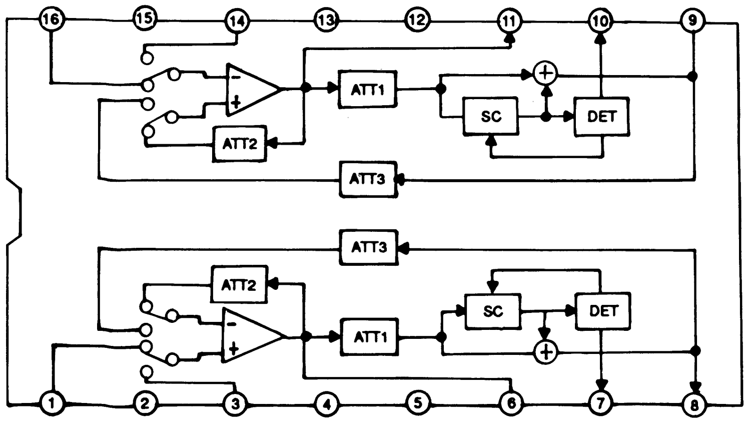
MC79L05



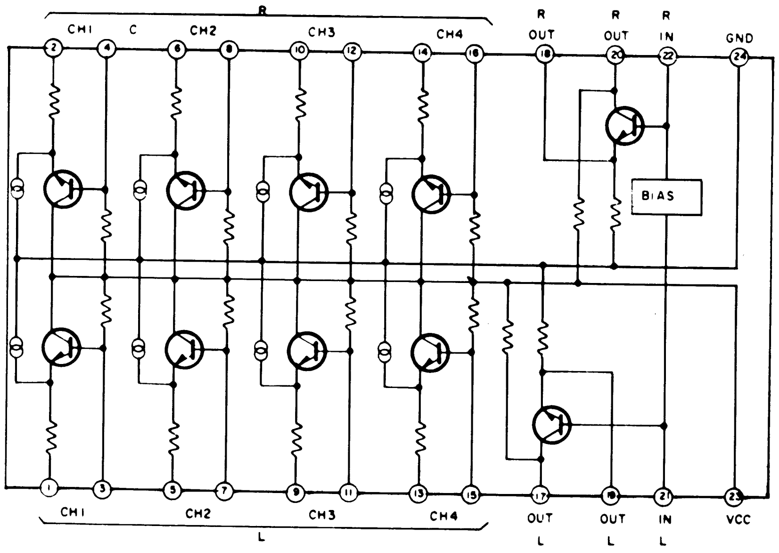
● TA8216H (POWER IC) : AIC 1


6
9
4
11
5
AIC1
TA8216H
3
10
1
12
2
7
8

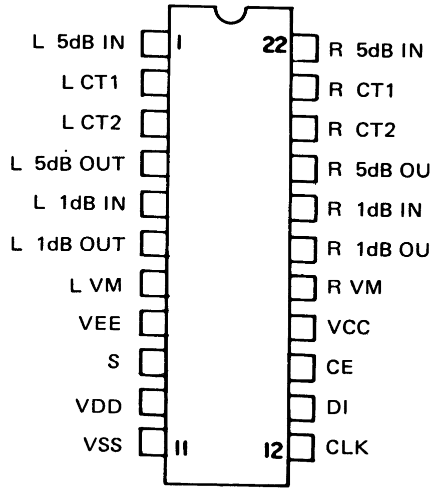
● KA2271 (DOLBY IC) : DIC 1


16
15
14
13
12
11
10
9
ATT1
SC
DET
ATT2
ATT3
ATT3
ATT2
SC
DET
ATT1
1
2
3
4
5
6
7
8

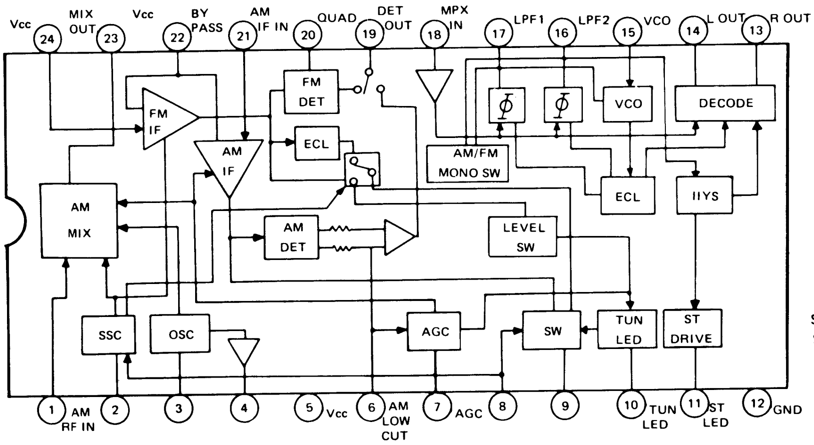
● KA22234 : EQ BLOCK


R
CH1
C
CH2
CH3
CH4
R OUT
R OUT
R IN
GND
2
4
6
8
10
12
14
16
18
20
22
24
BIAS
1
3
5
7
9
11
13
15
17
19
21
23
CH1
CH2
CH3
CH4
OUT L
OUT L
IN L
VCC
L

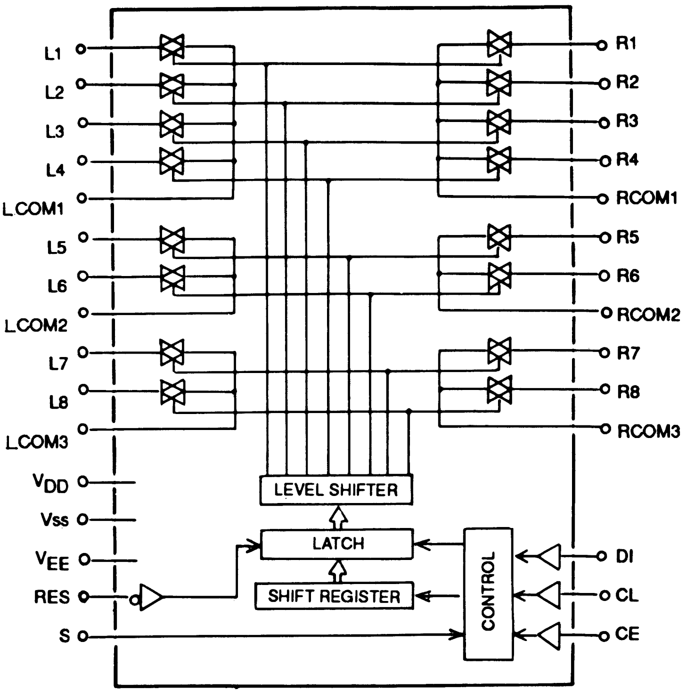
● LC7535 (VOLUME IC) : QIC4


L 5dB IN
L CT1
L CT2
L 5dB OUT
L 1dB IN
L 1dB OUT
L VM
VEE
S
VDD
VSS
1
11
22
12
R 5dB IN
R CT1
R CT2
R 5dB OUT
R 1dB IN
R 1dB OUT
R VM
VCC
CE
DI
CLK

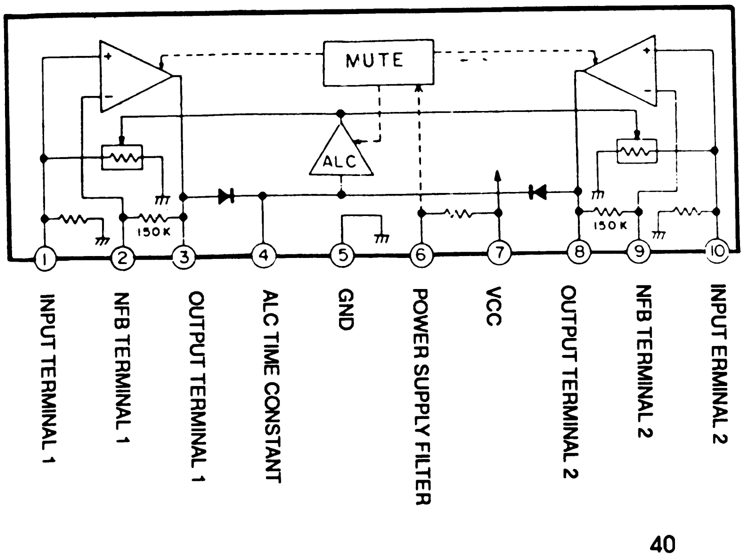
● LA1851N (AM, FM-IF) : IIC 1


Vcc
24
MIX OUT
23
Vcc
22
BY PASS
21
AM IF IN
20
QUAD
19
DET OUT
18
MPX IN
17
LPF1
16
LPF2
15
VCO
14
L OUT
13
R OUT
FM IF
FM DET
AM IF
ECL
AM/FM MONO SW
VCO
DECODE
AM MIX
AM DET
LEVEL SW
ECL
HYS
SSC
OSC
AGC
SW
TUN LED
ST DRIVE
1
AM RF IN
2
3
4
5
Vcc
6
AM LOW CUT
7
AGC
8
9
10
TUN LED
11
ST LED
12
GND

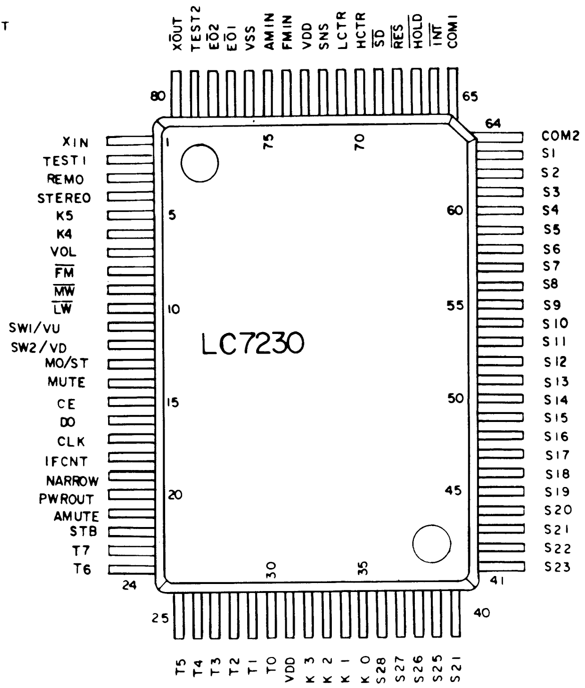
● LC7821 (FUNCTION IC) : BIC 1


L1
L2
L3
L4
LCOM1
L5
L6
LCOM2
L7
L8
LCOM3
VDD
Vss
VEE
RES
S
R1
R2
R3
R4
RCOM1
R5
R6
RCOM2
R7
R8
RCOM3
DI
CL
CE
LEVEL SHIFTER
LATCH
SHIFT REGISTER
CONTROL

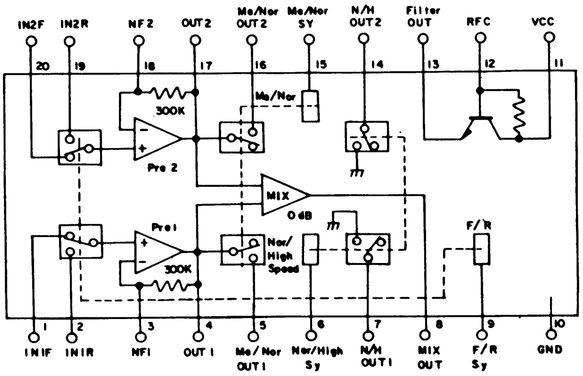
● BA3312N (EQ IC) : DIC 2


MUTE
ALC
150K
150K
1
2
3
4
5
6
7
8
9
10
INPUT TERMINAL 1
NFB TERMINAL 1
OUTPUT TERMINAL 1
ALC TIME CONSTANT
GND
POWER SUPPLY FILTER
VCC
OUTPUT TERMINAL 2
NFB TERMINAL 2
INPUT TERMINAL 2

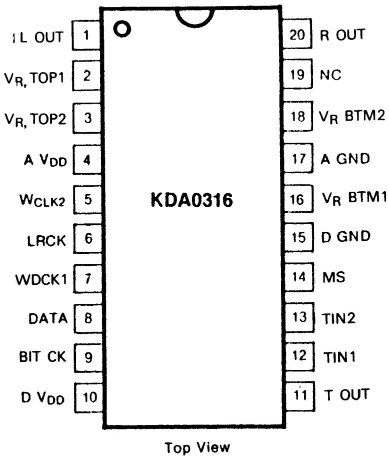
● LC 7230 (μ-COM) : UIC 1


XOUT
TEST2
EO2
EO1
VSS
AMIN
FMIN
VDD
SNS
LCTR
HCTR
SD
RES
HOLD
INT
COM1
80
65
64
75
70
1
5
10
15
20
60
55
50
45
XIN
TEST1
REMO
STEREO
K5
K4
VOL
FM
MW
LW
SW1/VU
SW2/VD
MO/ST
MUTE
CE
DO
CLK
IFCNT
NARROW
PWROUT
AMUTE
STB
T7
T6
24
25
30
35
40
41
COM2
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
LC7230
T5
T4
T3
T2
T1
T0
VDD
K3
K2
K1
K0
S28
S27
S26
S25
S21

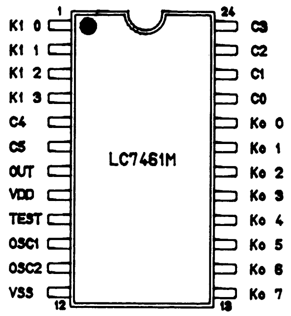
● LA3246 (PLAY IC) : JIC 1


IN2F
IN2R
NF2
OUT2
Me/Nor OUT2
Me/Nor SY
N/H OUT2
Filter OUT
RFC
VCC
20
19
18
17
16
15
14
13
12
11
300K
Me/Nor
Pre 2
MIX
0dB
Pre1
Nor/ High Speed
300K
F/R
1
2
3
4
5
6
7
8
9
10
IN1F
IN1R
NF1
OUT1
Me/Nor OUT1
Nor/High Sy
N/H OUT1
MIX OUT
F/R Sy
GND

● KDA0316LN (D/A CONVERTER) : XIC201

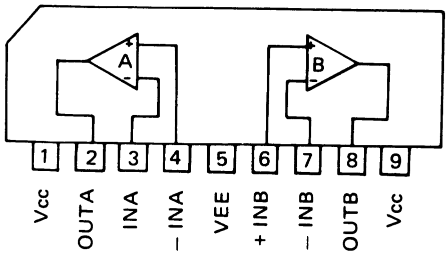

L OUT
1
VR, TOP1
2
VR, TOP2
3
A VDD
4
WCLK2
5
LRCK
6
WDCK1
7
DATA
8
BIT CK
9
D VDD
10
20
R OUT
19
NC
18
VR BTM2
17
A GND
16
VR BTM1
15
D GND
14
MS
13
TIN2
12
TIN1
11
T OUT
KDA0316
Top View

● LC7461M : REMOTE CONTROL

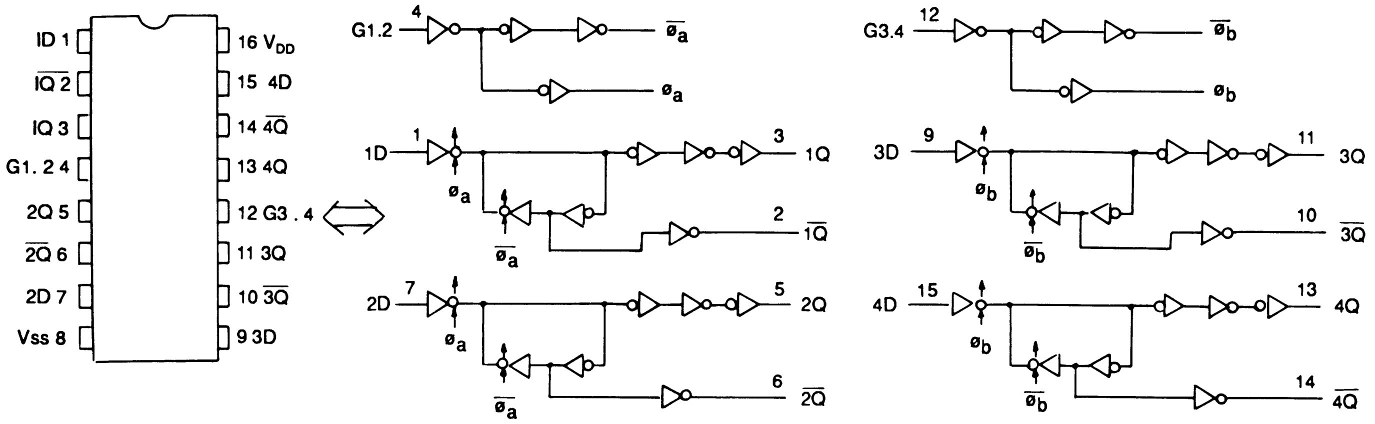

LC7461M
1
24
12
13
KI 0
KI 1
KI 2
KI 3
C4
C5
OUT
VDD
TEST
OSC1
OSC2
VSS
C3
C2
C1
C0
Ko 0
Ko 1
Ko 2
Ko 3
Ko 4
Ko 5
Ko 6
Ko 7

● MC4558S (OP AMP) : EIC1, KIC1, PIC1

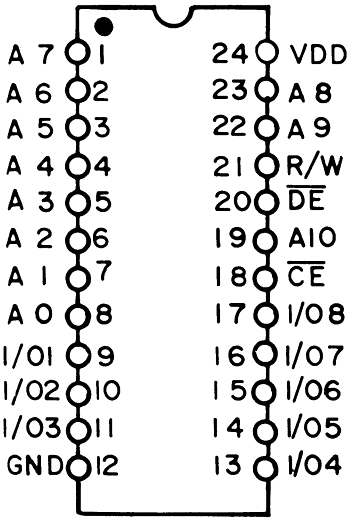
NJM2068SD(OP AMP) : ZIC201, 202


A
B
1
2
3
4
5
6
7
8
9
Vcc
OUTA
INA
− INA
VEE
+ INB
− INB
OUTB
Vcc

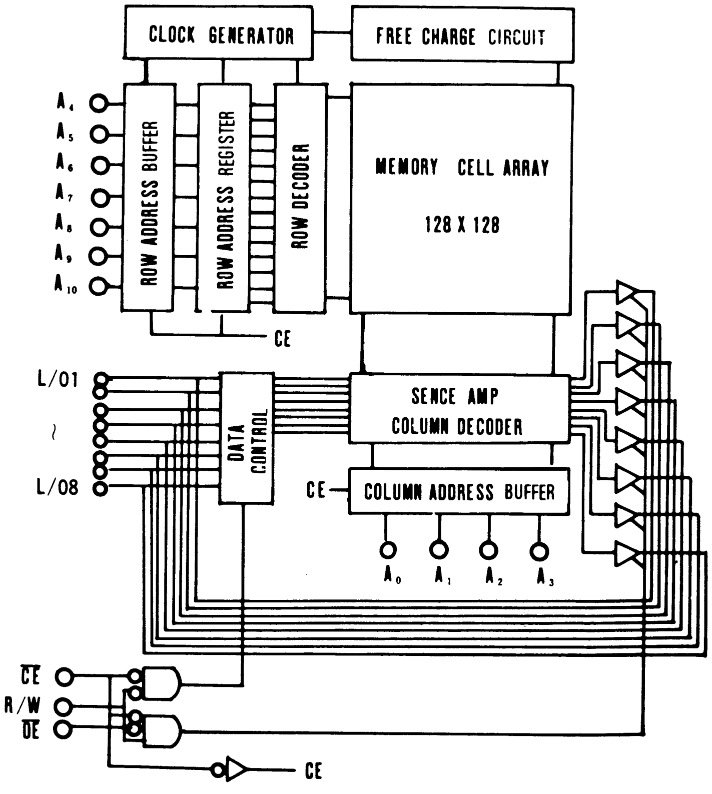
● LC74HC375 (LED DRIVER) : BIC 1


ID 1
$\overline{IQ}$ 2
IQ 3
G1. 2 4
2Q 5
$\overline{2Q}$ 6
2D 7
Vss 8
16 V_{DD}
15 4D
14 $\overline{4Q}$
13 4Q
12 G3 . 4
11 3Q
10 $\overline{3Q}$
9 3D
G1.2
4
$\overline{ø}$a
øa
1D
1
3
1Q
2
$\overline{1Q}$
2D
7
5
2Q
6
$\overline{2Q}$
G3.4
12
$\overline{ø}$b
øb
3D
9
11
3Q
10
$\overline{3Q}$
4D
15
13
4Q
14
$\overline{4Q}$

● HM6116LM (S-RAM) : WIC 204


A 7 1
A 6 2
A 5 3
A 4 4
A 3 5
A 2 6
A 1 7
A 0 8
I/OI 9
I/O2 10
I/O3 11
GND 12
24 VDD
23 A 8
22 A 9
21 R/W
20 $\overline{DE}$
19 A10
18 $\overline{CE}$
17 I/O8
16 I/O7
15 I/O6
14 I/O5
13 I/O4

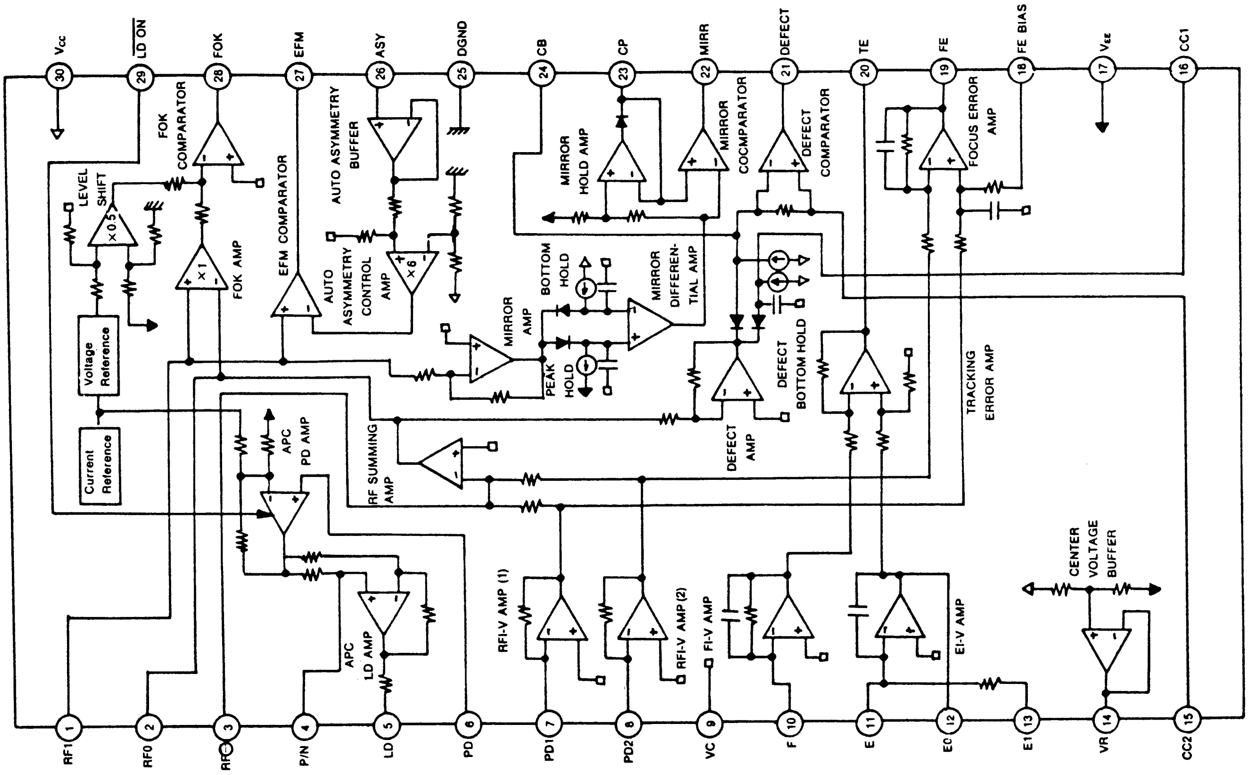
BLOCK DIAGRAM


CLOCK GENERATOR
FREE CHARGE CIRCUIT
A_4
A_5
A_6
A_7
A_8
A_9
A_{10}
ROW ADDRESS BUFFER
ROW ADDRESS REGISTER
ROW DECODER
MEMORY CELL ARRAY
128 X 128
CE
L/01
L/08
DATA CONTROL
SENCE AMP
COLUMN DECODER
CE
COLUMN ADDRESS BUFFER
A_0
A_1
A_2
A_3
$\overline{CE}$
R/W
$\overline{DE}$
CE

PIN DESCRIPTION

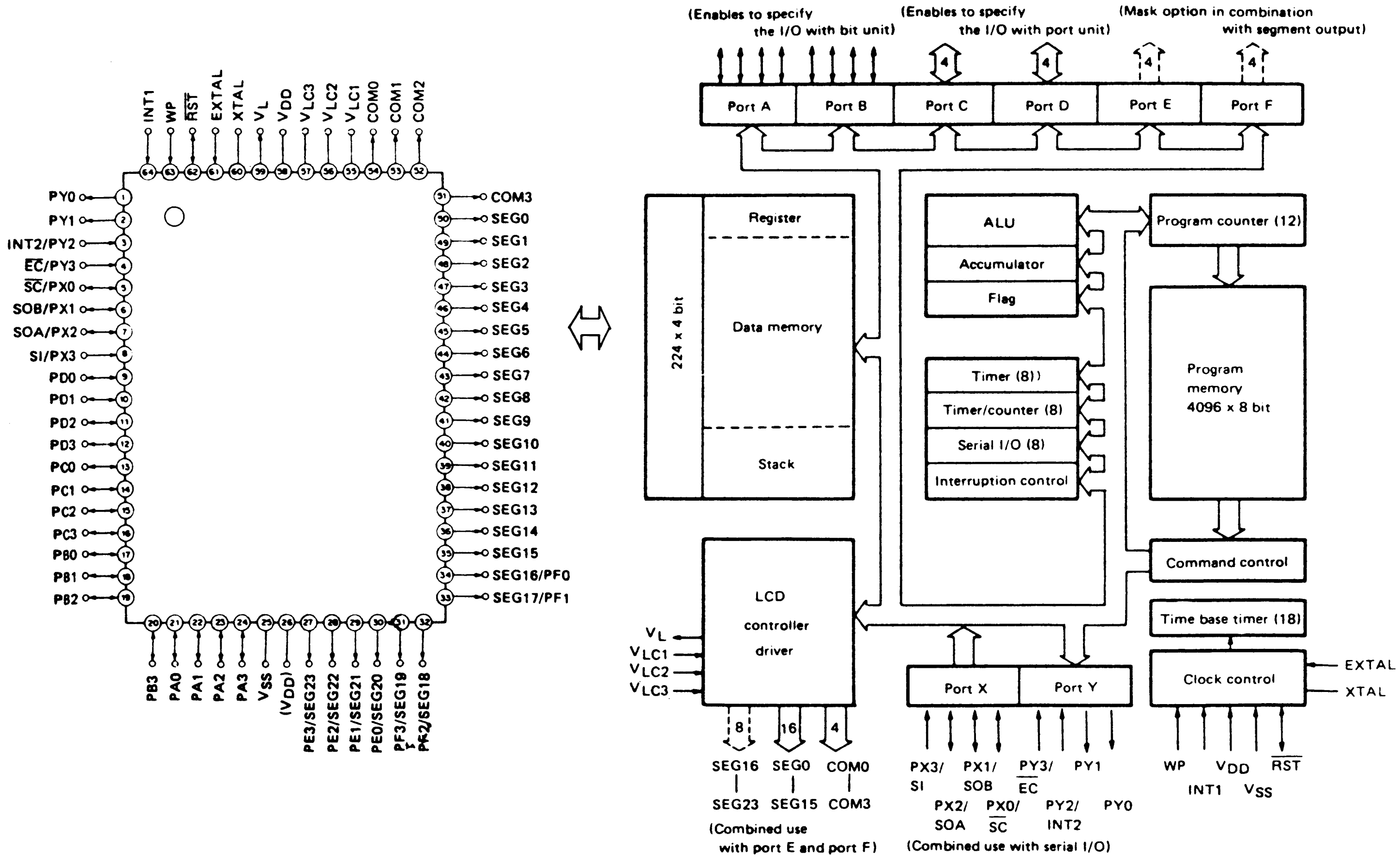
A0~A10	ADRESS INPUT
R/W	READ WRITE INPUT
OE	OUTPUT ENABLE INPUT
CE	CHIP ENABLE INPUT
I/O_1~I/O_8	DATA INPUT/OUTPUT
V_{DD}/GND	POWER SOURCE

● CXA1081M (RF AMP) : WIC 201



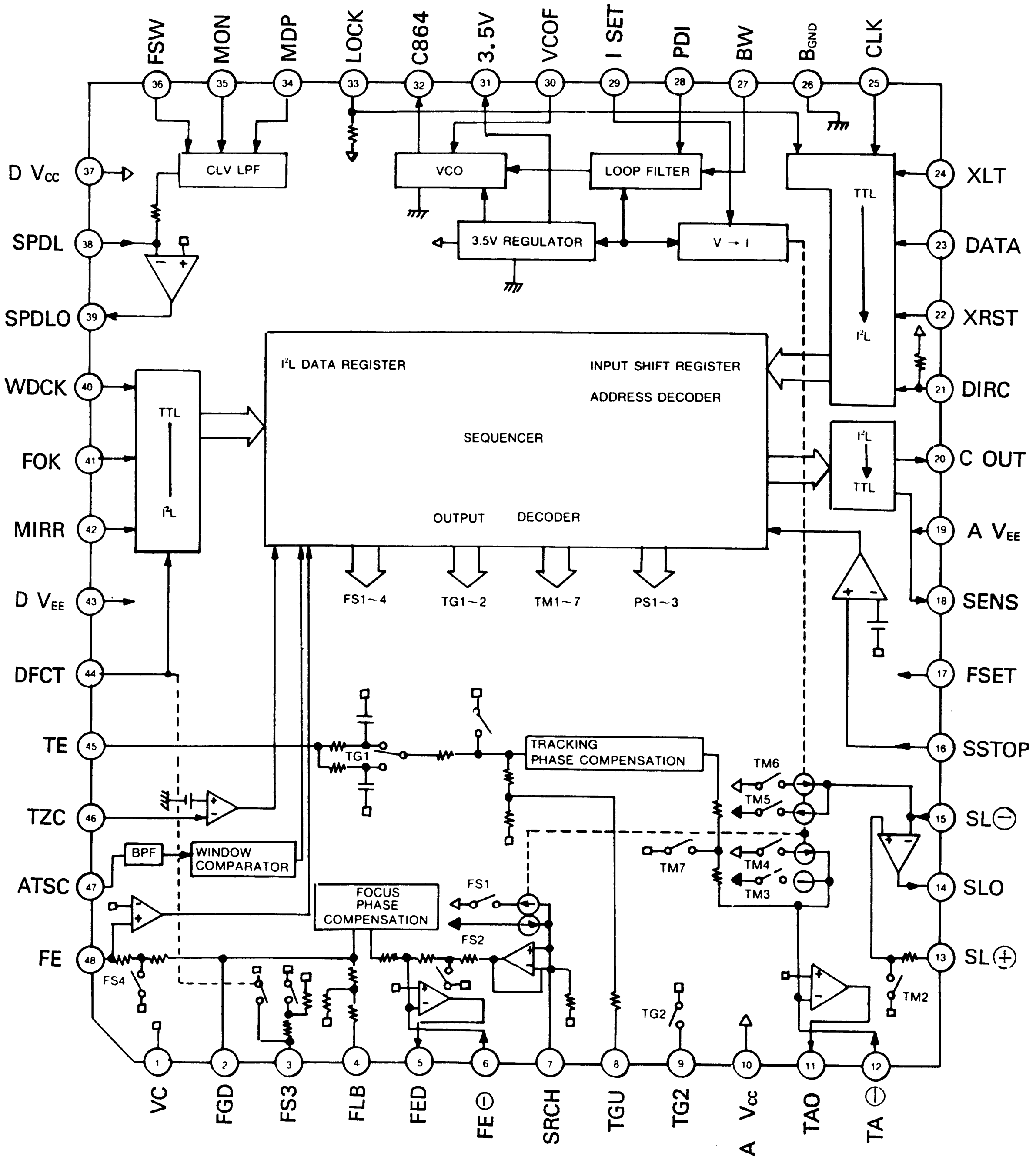
Vcc
LD ON
FOK
EFM
ASY
DGND
CB
CP
MIRR
DEFECT
TE
FE
FE BIAS
Vcc
CC1
FOK COMPARATOR
LEVEL SHIFT
×0.5
×1
FOK AMP
Voltage Reference
Current Reference
EFM COMPARATOR
AUTO ASYMMETRY BUFFER
AUTO ASYMMETRY CONTROL AMP
×6
MIRROR HOLD AMP
MIRROR COCMPARATOR
DEFECT COMPARATOR
FOCUS ERROR AMP
BOTTOM HOLD
MIRROR DIFFERENTIAL AMP
MIRROR AMP
PEAK HOLD
DEFECT BOTTOM HOLD
DEFECT AMP
TRACKING ERROR AMP
APC PD AMP
RF SUMMING AMP
APC LD AMP
RFI-V AMP (1)
RFI-V AMP (2)
FI-V AMP
EI-V AMP
CENTER VOLTAGE BUFFER
RFI
RFO
RFC
P/N
LD
PD
PD1
PD2
VC
F
E
EO
EI
VR
CC2

● CXP 5024-113 (μCOM) : UIC 201

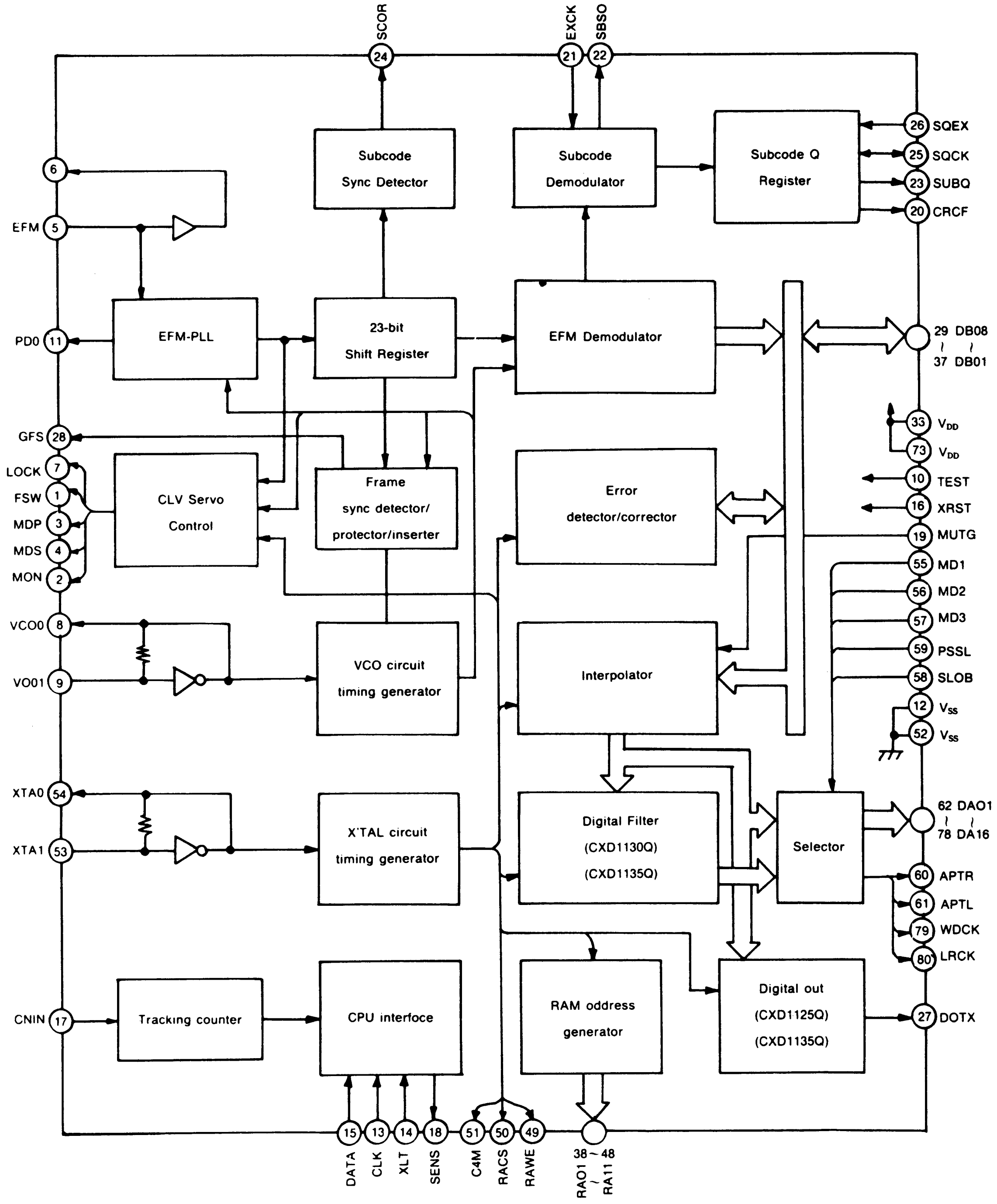


INT1
WP
RST
EXTAL
XTAL
VL
VDD
VLC3
VLC2
VLC1
COM0
COM1
COM2
PY0
PY1
INT2/PY2
EC/PY3
SC/PX0
SOB/PX1
SOA/PX2
SI/PX3
PD0
PD1
PD2
PD3
PC0
PC1
PC2
PC3
PB0
PB1
PB2
COM3
SEG0
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
SEG16/PF0
SEG17/PF1
PB3
PA0
PA1
PA2
PA3
VSS
(VDD)
PE3/SEG23
PE2/SEG22
PE1/SEG21
PE0/SEG20
PF3/SEG19
PF2/SEG18
(Enables to specify the I/O with bit unit)
(Enables to specify the I/O with port unit)
(Mask option in combination with segment output)
Port A
Port B
Port C
Port D
Port E
Port F
224 × 4 bit
Register
Data memory
Stack
ALU
Accumulator
Flag
Timer (8)
Timer/counter (8)
Serial I/O (8)
Interruption control
Program counter (12)
Program memory 4096 × 8 bit
Command control
Time base timer (18)
Clock control
EXTAL
XTAL
LCD controller driver
VL
VLC1
VLC2
VLC3
Port X
Port Y
8
16
4
SEG16 | SEG23
SEG0 | SEG15
COM0 | COM3
(Combined use with port E and port F)
PX3/ SI
PX1/ SOB
PY3/ EC
PY1
PX2/ SOA
PX0/ SC
PY2/ INT2
PY0
(Combined use with serial I/O)
WP
VDD
RST
INT1
VSS

- **CXA1082AQ (SSP) : WIC 202**

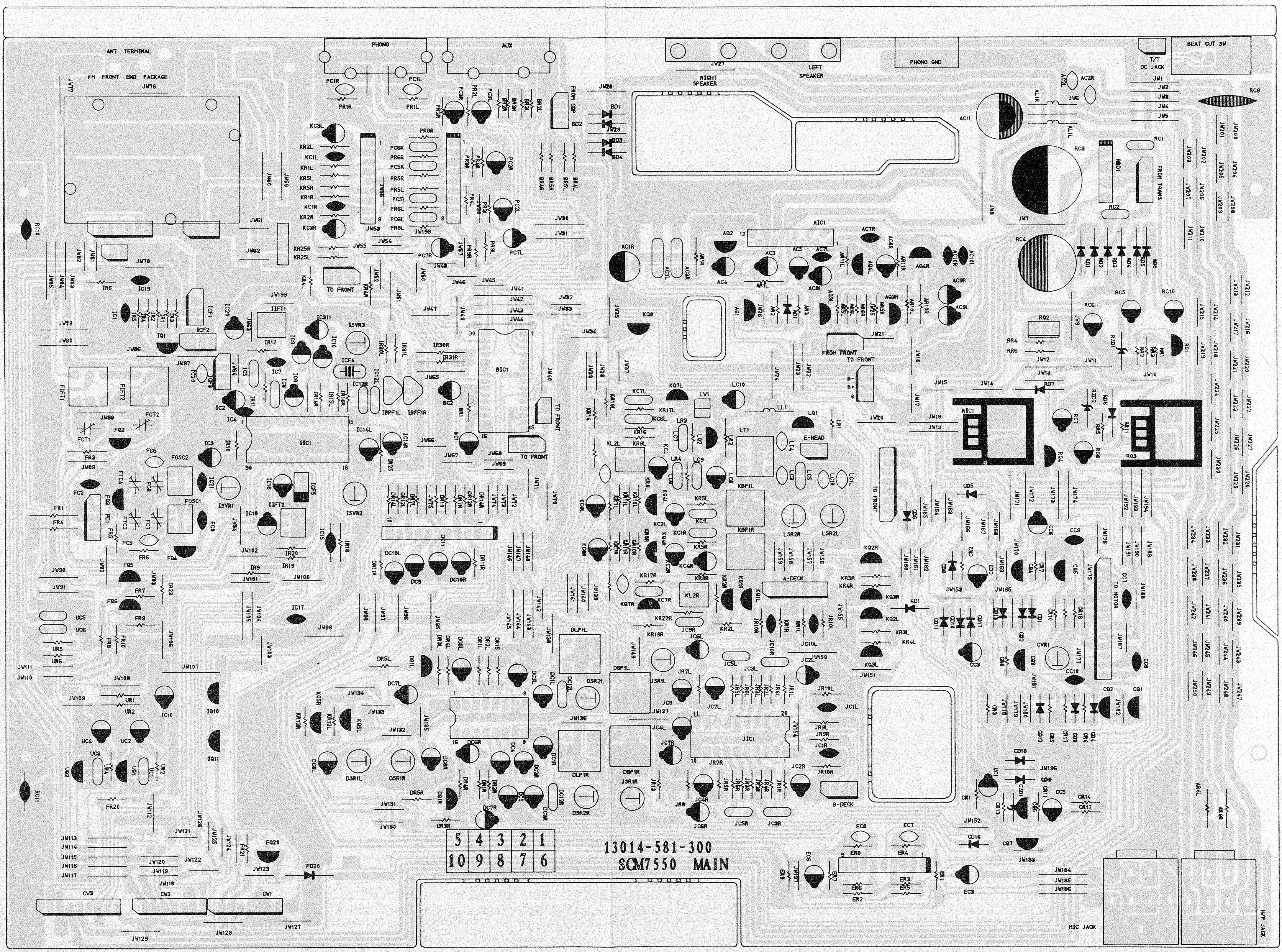

FSW 36
MON 35
MDP 34
LOCK 33
C864 32
3.5V 31
VCOF 30
I SET 29
PDI 28
BW 27
B GND 26
CLK 25
XLT 24
DATA 23
XRST 22
DIRC 21
C OUT 20
A VEE 19
SENS 18
FSET 17
SSTOP 16
SL⊖ 15
SLO 14
SL⊕ 13
TA ⊖ 12
TAO 11
A Vcc 10
TG2 9
TGU 8
SRCH 7
FE ⊖ 6
FED 5
FLB 4
FS3 3
FGD 2
VC 1
FE 48
ATSC 47
TZC 46
TE 45
DFCT 44
D VEE 43
MIRR 42
FOK 41
WDCK 40
SPDLO 39
SPDL 38
D Vcc 37
CLV LPF
VCO
LOOP FILTER
3.5V REGULATOR
V → I
TTL
I²L
I²L DATA REGISTER
INPUT SHIFT REGISTER
ADDRESS DECODER
SEQUENCER
OUTPUT DECODER
FS1~4
TG1~2
TM1~7
PS1~3
TG1
TRACKING PHASE COMPENSATION
BPF
WINDOW COMPARATOR
FOCUS PHASE COMPENSATION
FS1
FS2
FS4
TM6
TM5
TM7
TM4
TM3
TM2
TG2

● CXD1130Q (DSP) : WIC 203

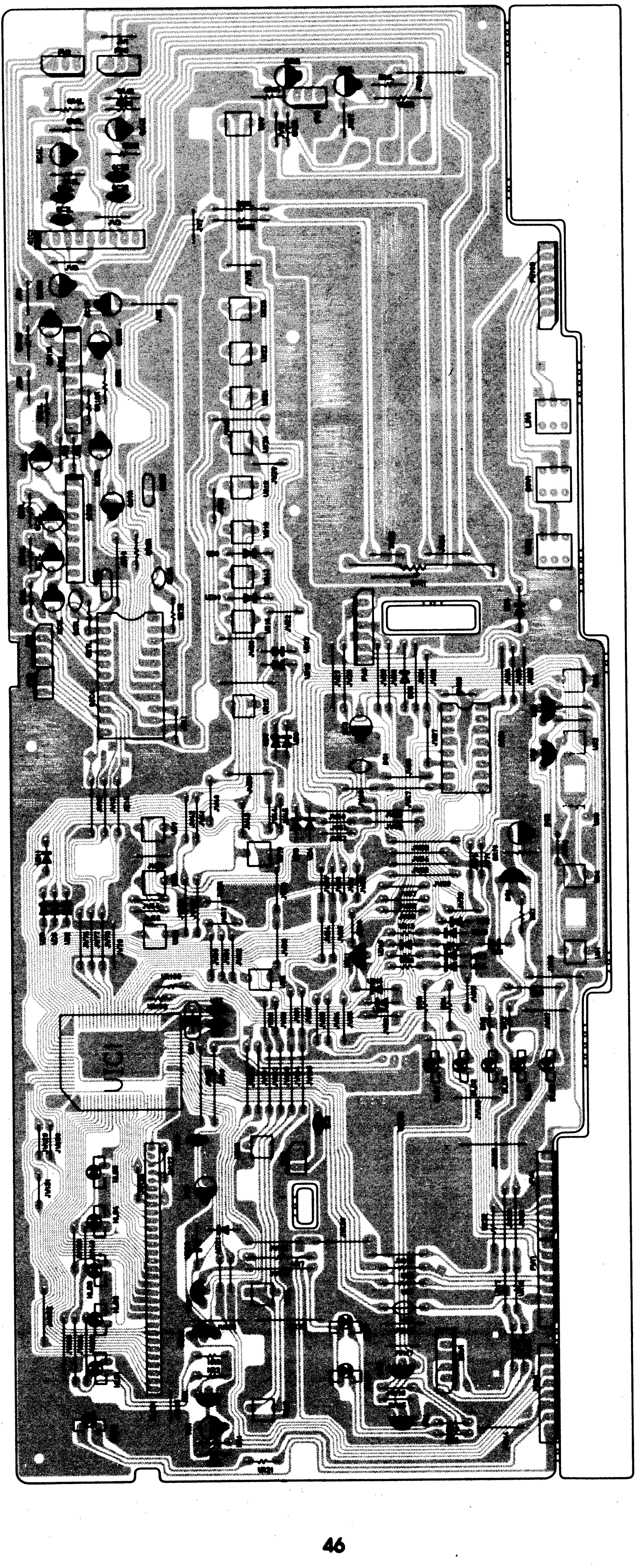

SCOR
EXCK
SBSO
24
21
22
Subcode
Sync Detector
Subcode
Demodulator
Subcode Q
Register
26 SQEX
25 SQCK
23 SUBQ
20 CRCF
6
EFM 5
PDO 11
EFM-PLL
23-bit
Shift Register
EFM Demodulator
29 DB08
37 DB01
33 V$_{DD}$
73 V$_{DD}$
10 TEST
16 XRST
19 MUTG
55 MD1
56 MD2
57 MD3
59 PSSL
58 SLOB
12 V$_{SS}$
52 V$_{SS}$
GFS 28
LOCK 7
FSW 1
MDP 3
MDS 4
MON 2
CLV Servo
Control
Frame
sync detector/
protector/inserter
Error
detector/corrector
VCOO 8
VOO1 9
VCO circuit
timing generator
Interpolator
XTAO 54
XTA1 53
X'TAL circuit
timing generator
Digital Filter
(CXD1130Q)
(CXD1135Q)
Selector
62 DAO1
78 DA16
60 APTR
61 APTL
79 WDCK
80 LRCK
CNIN 17
Tracking counter
CPU interface
RAM address
generator
Digital out
(CXD1125Q)
(CXD1135Q)
27 DOTX
15 DATA
13 CLK
14 XLT
18 SENS
51 C4M
50 RACS
49 RAWE
38~48
RAO1 ~ RA11

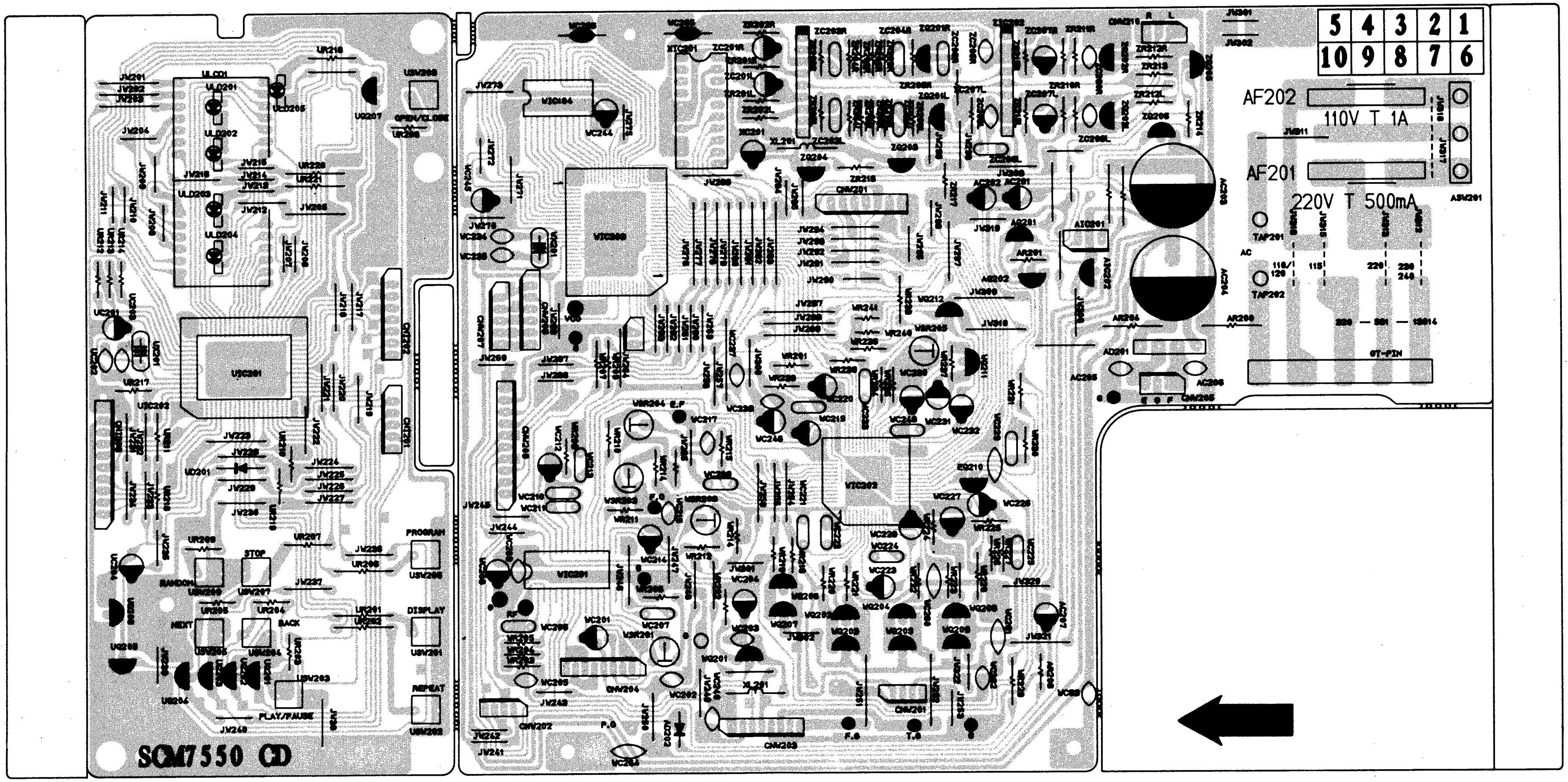
■ PCB PATTERN AND MARKING (PATTERN SIDE)

1. MAIN

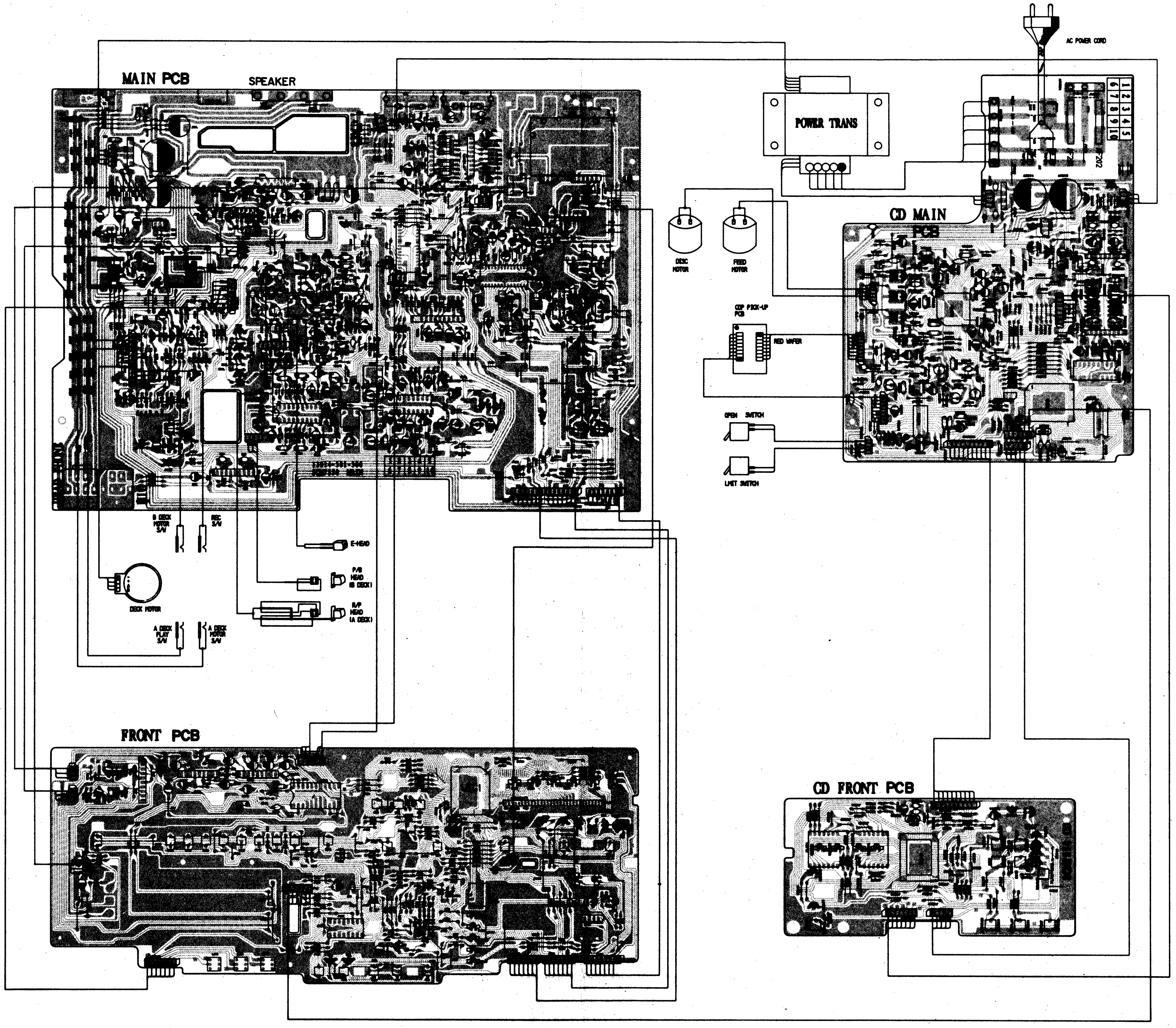

ANT TERMINAL
FM FRONT END PACKAGE
PHONO
AUX
RIGHT SPEAKER
LEFT SPEAKER
PHONO GND
BEAT CUT SW
T/T DC JACK
FROM CDP
FROM TRANS
TO FRONT
FROM FRONT
E-HEAD
A-DECK
B-DECK
TO MOTOR
5 4 3 2 1
10 9 8 7 6
13014-581-300
SCM7550 MAIN
MIC JACK
H/P JACK

2. FRONT

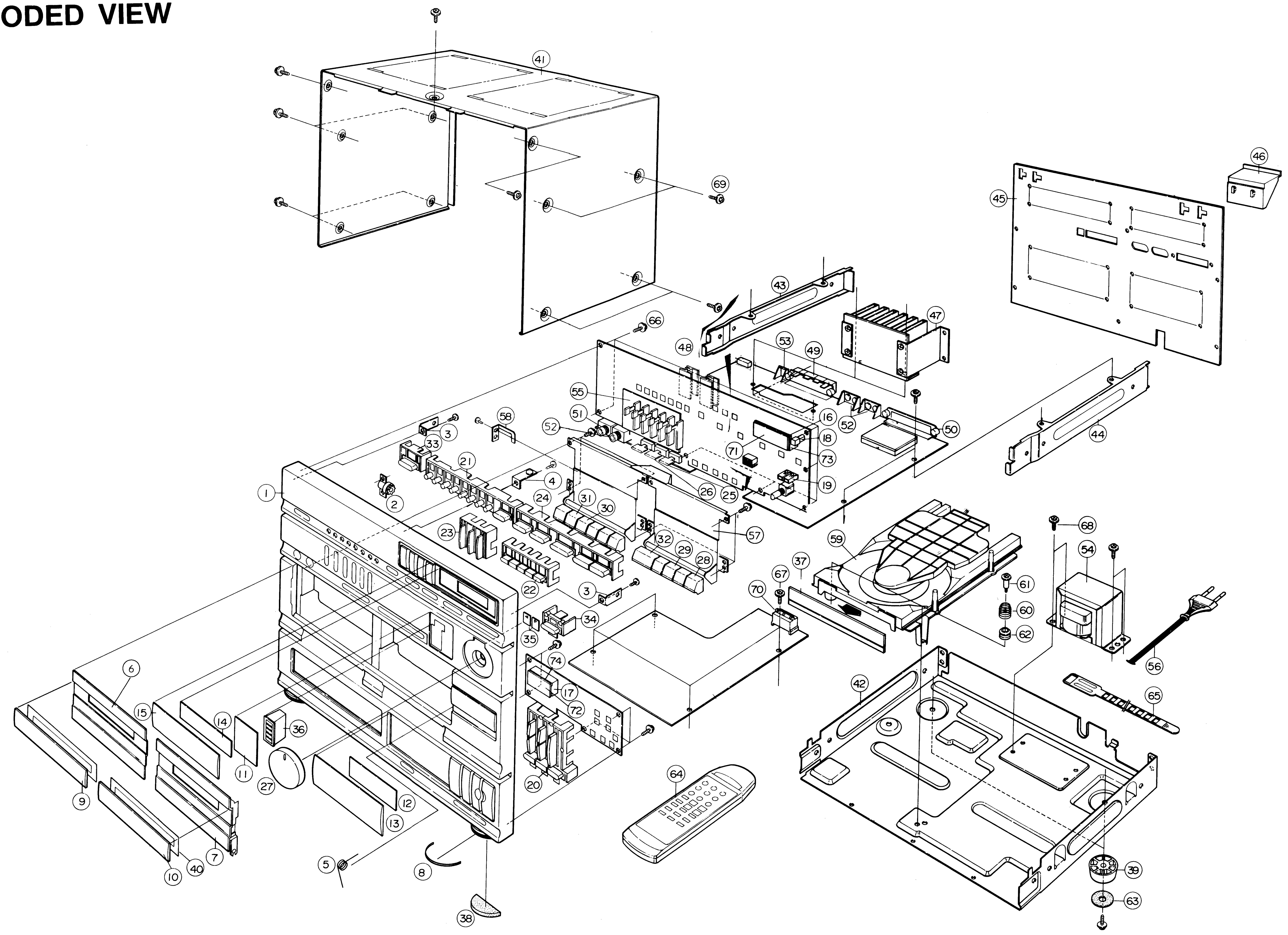



SCM7550 CD
5 4 3 2 1
10 9 8 7 6
AF202
110V T 1A
AF201
220V T 500mA
OPEN/CLOSE
PROGRAM
STOP
RANDOM
NEXT
BACK
DISPLAY
REPEAT
PLAY/PAUSE
VIC202
VIC203
VIC201
UIC201
ULCD1
CNV201
CNV202
CNV203
CNV204
CNV205
USV201
USV202
USV203
USV204
USV205
USV206
USV207
USV208
USV209
TAP201
TAP202
AC
ASW201

WIRING DIAGRAM (PARTS SIDE)


AC POWER CORD
MAIN PCB
SPEAKER
POWER TRANS
CD MAIN PCB
DISC MOTOR
FEED MOTOR
CDP PICK-UP PCB
RED WAFER
OPEN SWITCH
LIMIT SWITCH
B DECK MOTOR S/W
REC S/W
E-HEAD
P/B HEAD (B DECK)
R/P HEAD (A DECK)
DECK MOTOR
A DECK PLAY S/W
A DECK MOTOR S/W
FRONT PCB
CD FRONT PCB

■ EXPLODED VIEW


41
69
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3
33
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18
71
73
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19
44
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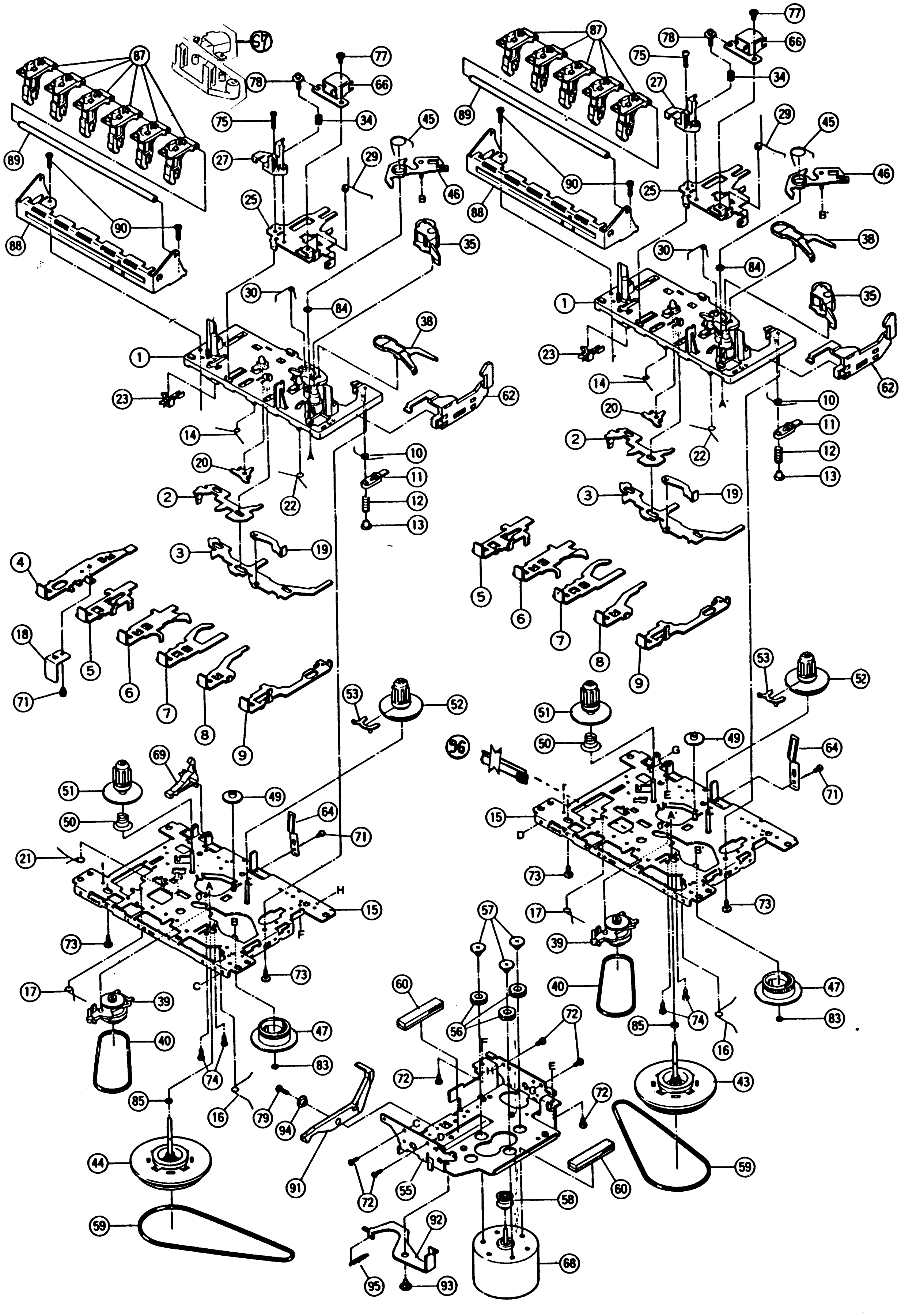
8
38

DECK EXPLODED VIEW


87
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77
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34
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89
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29
46
90
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88
35
30
84
38
1
23
62
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17
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47
74
83
85
16
79
94
44
59
91
56
60
72
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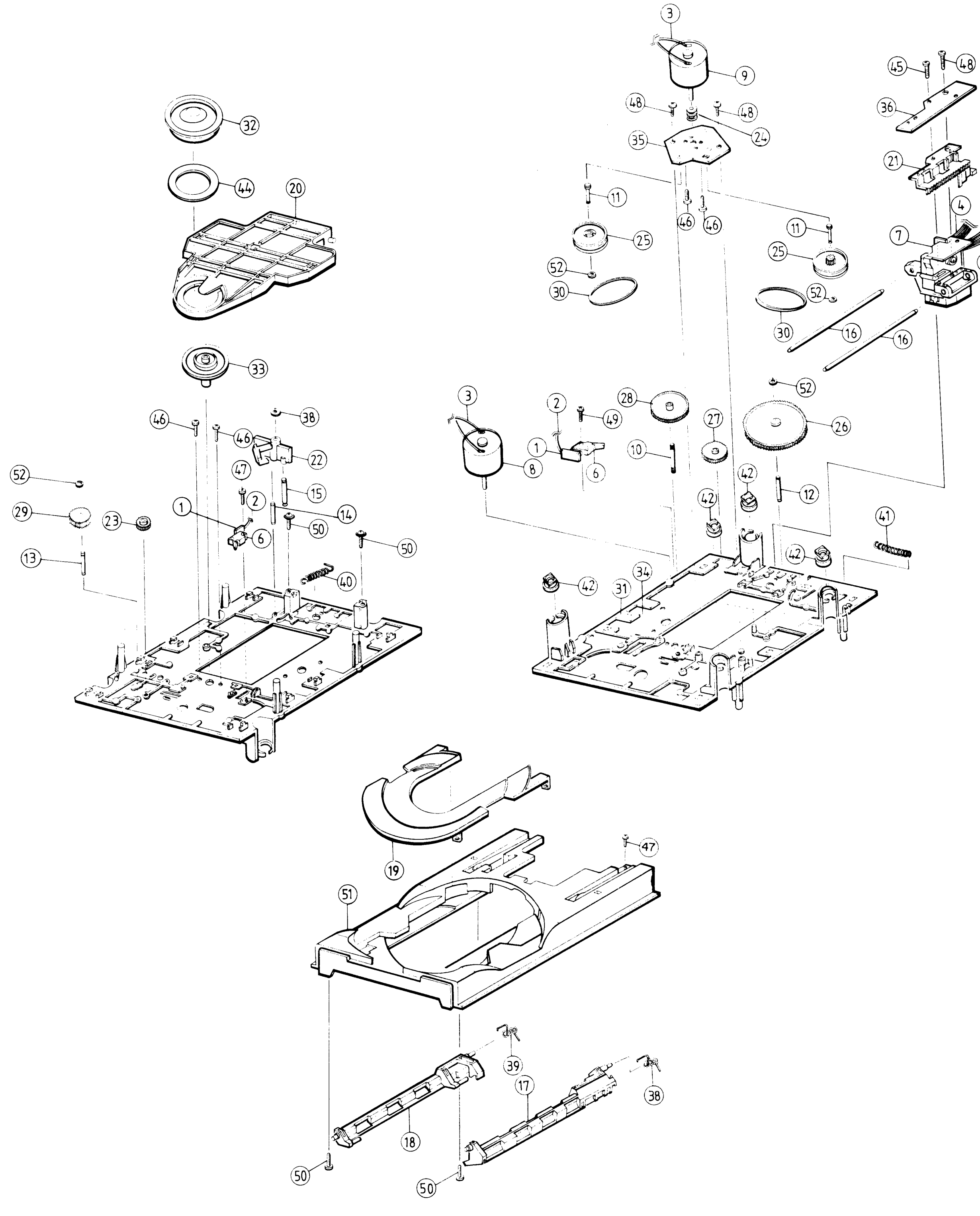
58
92
68
95
93
43
A
B
C
D
E
F
G
H
B'

■ CD MECHANISM EXPLODED VIEW


3
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52
52
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33
52
3
2
49
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27
26
46
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46
22
1
6
10
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52
47
2
15
14
42
12
42
41
29
23
1
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■ PARTS LIST

1. ELECTRONIC PARTS

MAIN PCB

LOCATION NO	CODE NO.	DESCRIPTION AND SPECIFICATION	Q'TY	NEW	REMARK
FC 7	11509-452-120	C-POLYSTYRENE ; CQ09 S 50V 470-J	1		
FC 8	11509-452-530	C-POLYSTYRENE ; CQ09 S 50V 380-J	1		LW BAND
AC1L, R	11609-401-720	C-ELECTROLYTIC ; CE04W 25V 1000M	2		
RC 4	11609-401-740	C-ELECTROLYTIC ; CE04W 25V 2200M	1		
RC 4	11609-402-350	C-ELECTROLYTIC ; CE04W 50V 2200M	1		
DC7L, R	11629-101-640	C-ALUMINIUM, SOLID ; 25V 0.68M-K	2		
FCT1, 3	11829-512-030	C-TRIMMER ; TZ03R 20PF	2		
FCT2, 4	11829-512-030	C-TRIMMER ; TZ03R 20PF	2		LW BADN
DIC 1	12109-323-990	IC-DOLBY ; KA2271	1		
BIC 1	12109-401-270	IC-FUNCTION ; LC7821	1		
RIC 1	12109-401-690	IC-REGULATOR ; MC7812C	1		
AIC 1	12119-101-550	IC-POWER ; TA8216H	1		
DIC 2	12119-102-050	IC-EQ ; BA3312N	1		
IIC 1	12119-102-720	IC-AM.FM IF ; LA1851N	1		
JIC 1	12119-201-840	IC-PLAY ; LA3246	1		
EIC1, KIC1, PIC1	12119-401-630	IC-DUAL OP AMP ; MC4558S	3		
RQ2	12139-103-560	TRANSISTOR ; KSA614-0	1		
UQ1, 2	12139-601-200	TR-SILICON ; 2SK,583	2		
RQ3	12149-401-070	TRANSISTOR ; KSD73-Y	1		
RBD1	12169-219-210	DIODE-RECT ; 2KB PO2	1		
FD1	12169-501-005	DIODE ; KV1236	1		
IIFT1	12619-020-067	COIL-7 CAN ; AB FM BLU	1		
IIFT2	12619-030-005	COIL-CAN ; AC 450KHz YEL	1		LW BAND
FOSC2	12619-041-812	COIL-CAN ; AD360μH 796KHz(LC7230 LW OSC)BRN	1		LW BAND
FOSC1	12619-047-203	COIL-CAN ; AD110μH 796KHz RED	1		
KL 2L, 2R	12619-053-911	COIL-CAN ; AE 4.7MH 252KHz BLK	2		
FIFT1	12619-411-000	MW ANT COIL ; 207BLRZ-K5026N-KR	1		
FIFT2	12619-566-913	TRANS-TEN CAN ; AF 2.4MH FLW RED	1		
LTI	12619-580-011	COIL-CAN BIAS OSC COIL ; 10MM 105KHz BLK	1	★	
KBPIL, IR, DBPIL, IR	12619-636-471	COIL-CAN ; AM 2.2M HF NON	4		
SPEAKER	13303-500-610	TERMINAL BOARD PUSH ; 4P PUSH TACK	1		
ANT	13304-503-620	TERMINAL-ANT ; ABS 4 TERMINAL	1		
H/P, MIC	13339-105-007	JACK-HEAD/PHONE ; HYT 60-065(M)	1		
AUX, PHONO	13339-403-020	JACK-AUX ; 8.3PI PHONO TYPE	1		
F.E.P	14519-809-040	FM FRONT END PACK ; F3615(300)	1		
ICF1, 2, 3	14529-301-760	FILTER-CERAMIC ; SFE10.7 MA8H-A	3		

LOCATION NO	CODE NO.	DESCRIPTION AND SPECIFICATION	Q'TY	NEW	REMARK
ICF5	14529-304-610	FILTER-CERAMIC ; AHCM2-0BL	1		
DLPIL, IR	14529-414-050	FILTER-LOW PASS ; 10MM 19K/105KHz	2		
IBPFIR, IL	14529-505-210	FILTER-LOW PASS ; B3AN 0701-32	2		
ICF4	14539-504-100	CERAMIC RESONATOR ; CSB456F 15	1		
RR11	11048-477-391	R-METAL OXIDE ; RS1T390-J MINI TYPE	1		
RR2	11048-477-681	R-METAL OXIDE ; RSIT 680-J MINI TYPE	1		
RR5	11048-477-102	R-METAL OXIDE ; RSIT 1K-J MINI TYPE	1		
FQ5, 6	12149-101-520	TRANSITOR ; KSA733-Y, TAPE	2		FQ5 : LW BAND
KQ5L, 5R	12149-301-820	TRANSITOR ; KSC1222, L TAPE	2		
FQ2, IQ1	12149-301-860	TRANSITOR ; KSC 838-O, TAPE	2		FQ2 : LW BAND
RQ1, AQ4L, 4R, AQ3L, 3R, AQ2, CQ5, 7, DQIL IR, KQ5L, 5R, FQ4 3, LQ1, KQ7L, 7R	12149-301-900	TRANSITOR ; KSC945-Y TAPE	17		FQ, 3, 4 : LW BAND
LQ2	12149-301-910	TRANSISTOR ; KSC 2331-Y, TAPE	1		
KQ2R, 2L, KQ1L IR, KQ3L, 3R	12149-301-930	TRANSISTOR ; KSC 1008-Y, TAPE	6		
CQ3, 2, 1, IQ10, 11	12159-301-330	TR-DIGITAL ; KSR2003, TAPE	5		
RQ4, CQ4, 6, KQ8 AQ1, FQ20	12159-301-780	TR-DIGITAL ; KSR1003	6		
RD1-8	12169-201-080	DIODE-RECTIFIER ; IN4001, TAPE	8		
CZD1	12169-403-200	DIODE-ZN ; RD 407E/UZ4.7BM	1		
RZD1, 2	12169-404-610	DIODE-ZN ; 500MW 4-12,6V UZ-BM	2		
LL1	12429-070-130	COIL-CHOKE ; 470μH R-TYPE	1		

POWER PCB

LOCATION NO	CODE NO.	DESCRIPTION AND SPECIFICATION	Q'TY	NEW	REMARK
POWER TRANS	12869-219-900	TRANS-POWER ; E1 66×35 120V	1		UL, CSA
	12869-219-910	TRANS-POWER ; E1 66×35 110/115/220/230V 50/60Hz	1		E.T.C
	12869-219-920	TRANS-POWER ; E1 66×35 120/220/240V	1		V.D.E
POWER-CORD	13059-808-246	POWER-CORD ASSY ; KKP-4 19 C/B-161 W/S 220M/M	1		110/220V, 220V
	13053-505-011	POWER-CORD ASSY ; BS6500 GTBS 2.5M W/S 220M/M	1		B.S
	13059-808-091	POWER-CORD ASSY ; KKP-8 SPT-2♯28 7FT U/C	1		120V PORARIZED
	13053-806-313	POWER-CORD ASSY ; KKP-10 SPT-1♯18 7FT 220M/M W/S	1		120V
VOLT-SELECTOR	13599-502-020	VOLT-SELECT ; PCB00120353A(354)110/220V	1		OPTION
AF 201	14709-241-140	FUSE ; T 250V 0.5A 20EUR	1		220V OR 240V
AF 202	14709-241-200	FUSE ; T 250V 1A 20EUR	1		110V OR 120V

FRONT PCB

LOCATION NO	CODE NO.	DESCRIPTION AND SPECIFICATION	Q'TY	NEW	REMARK
QVR1	11239-115-130	VR-SLIDE ; RS20H114W 53W	1		
UC5	11609-365-473	GOLD CAPACITOR ; EEC-S5R5H473(5.5V 0.047F)	1		
BIC2	12109-310-780	CMOS-IC ; LC4081B	1		
QIC4	12109-401-160	IC-E/C VR ; LC7535	1		
UIC1	12109-401-290	IC PLL μ-COM ; LC7230-8303	1		
BIC1	12109-401-900	IC-HCT ; LC74HC375/TC74HC 375	1		
HIC1	12119-101-190	IS-REGULATOR ; NJM78L06A/TA78L 006AP	1		
QIC2, 3	12119-401-630	IC-DUAL OP AMP ; MC4558S	2		
REMOCON-EYE	12199-101-070	REMOCON EYE ; SB+1610-02	1		
HLD6	12309-104-330	LED-SLB-55DU(ORG)	1		
BLD 6,7	12309-104-42C	LED-LAMP ; SLV-31DC3	2		
ULCD1	12339-104-650	LCD-DTS ; LE-LE-0605CP	1	★	
BSW1	13509-201-350	VOLUME SWITCH ; SRBJ113FA PO11	1		
LSW1,DSW1,CSW1	13529-203-930	SWITCH-PUSH ; SPEA122S CO11	3		
UX1	14539-003-010	CRYSTAL-UNIT ; HC18-U 4.5MHz	1		
BLOCK EQ	14579-500-110	EQ BLOCK ; RS20Z 50HW 00B53B	1	★	
UQ5, UQ6	12149-101-520	TRANSISTOR ; KSA733-Y,TAPE	2		
BQ1,HQ3,HQ1	12149-301-900	TRANSISTOR ; KSC945Y,TAPE	3		
BQ3,BQ4	12159-301-780	TR-DIGITAL ; KSD1003	2		
BD1,UD14,16-19 UD1-UD13	12169-301-290	DIODE ; SW ; ISS53/IN4148,CT ; 7PF	19		
HZD1	12169-404-650	DIODE ; ZN ; 500MW12.4-14.1V	1		
HLD1-5,BLD-5	12309-001-210	LED ; SLV31DC TAPE	10	★	
US1-23	13559-901-100	TACT SWITCH ; SKHVBE029A	23		

CD PCB

LOCATION NO	CODE NO.	DESCRIPTION AND SPECIFICATION	Q'TY	NEW	REMARK
AC203	11609-154-332	C-ELECTROLYTIC ; 3300μF/25V 16+31.5MM	1		
AC 4	11609-401-530	C-ELECTROLYTIC ; CE04W 16V 2200M	1		
WIC201	12109-323-730	IC-RF AMP ; CXA1081M	1		
WIC202	12109-323-740	IC-SS PROCESSOR ; CXA1082AQ	1		
WIC203	12109-323-750	IC-DS PROCESSOR ; CXD1130Q	1		
WIC204	12109-323-800	IC-SRAM ; CXK5816-M15L/HM6116-120	1		
UIC201	12109-323-980	IC-CDμCOM ; CXP5024-113	1		
XIC201	12109-401-310	IC-D/A CONVERTER ; KDA0316LN	1		
AIC202	12109-401-750	IC-REGULATOR ; MC79L05	1	★	
ZIC201,202	12119-401-760	IC-OP AMP ; NJM2068SD/UPC4570HA	2		
AIC201	12119-601-170	IC-VOLT REGULATOR ; ME78M05	1		
AD201	12169-209-150	DIODE-BRIDGE ; 3N246 1A 50V	1		
ULD205	12309-104-390	LED-SLB-25DU(AMB)SQ UARE	1		
ULCD201	12339-104-660	LCD-CD ; LA-0607GP	1		
UX201	14534-504-040	CERAMIC-RESONATOR ; CSA4.00MG	1	★	
WX1	14539-401-050	X-TAL ; HC18U 16.9344MHz	1		
AR204, 207 BR104, 105	11058-277-109	R-FUSIBLE ; RF 1/4T 1-J	4		
ZQ5,3	12149-101-520	TRANSISTOR ; KSA733-Y,TAPE	2		
WQ3,5,7,9	12149-101-590	TRANSISTOR ; KSA931-Y, TAPE	4		
WQ1, AQ1	12149-202-050	TRANSISTOR ; KSB564A-Y, TAPE	2		
WQ10, 11,UQ6 ZQ2L,2R,ZQ1L,IR	12149-301-900	TRANSISTOR ; KSC945-Y, TAPE	7		
WQ2,4,6,8	12149-301-910	TRANSISTOR ; KSC2331-Y, TAPE	4		
UQ7	12159-301-330	TR-DIGITAL ; KSR2003, TAPE	1		
UQ1-5, ZQ4, 6 AQ2, WQ12	12159-301-780	TR-DIGITAL ; KSR1003, TAPE	9		
AD2, UD1	12169-301-290	DIODE-SW ; ISS53/IN4148,CT ; 6PF	2		
ULD1-4	12309-001-210	LED ; SLV 31DC, TAPE	4		
USW1-9	13559-901-100	TACT-SWITCH ; SKHVBE 029A	9		

2. MECHANICAL PARTS

NO	CODE NO.	DESCRIPTION	SPECIFICATION	Q'TY	NEW	REMARK
1	16000-530-210	PANEL-FRONT	HIPS SPRAY SCM7550	1	★	
2	15123-504-010	DAMPER-GEAR ASSY	ACETAL	2		
3	16624-529-820	BRKT-PANEL, A	SBHG 1.0T	2		
4	16624-575-010	BRKT-PANEL, C	SBHG 1.0T	1	★	
5	16674-570-110	SPRING-DOOR	PWR PI0.8 SCM7550	2	★	
6	17642-528-510	DOOR-DECK	ABS SPRAY	2	★	AKAI ONLY
7	17642-528-540	DOOR-DECK, B	ABS SPRAY 1	1		
8	17824-526-210	DECO-FOOT	ALS 0.4T SCM7550	2		
9	17644-516-910	WINDOW-DOOR, A	ACRYL PRINT	1	★	
10	17644-516-920	WINDOW-DOOR, B	ACRYL PRINT	1	★	
11	17654-560-510	MASK-FUNC, A	PVC 1.0T	1	★	
12	17654-560-610	MASK-CD, LCD	PC 0.5T	1	★	
13	17644-516-810	WINDOW-CD, LCD	ACRYL PRINT	1	★	
14	17654-560-710	MASK-TUNER, LCD	PC 0.5T	1	★	FM/MW/LW
	17654-560-720	MASK-TUNER, LCD	PC0.5T SCM7550 TWO BAND	1	★	FM/AM
	17654-560-740	MASK-TUNER, LCD	PC0.5T SCM7550 SW BAND	1	★	FM/SW/LW
15	17644-517-010	WINDOW-TUNER, LCD	ACRYL PRINT	1	★	
16	16602-503-110	HOLDER-LED, T	ABS WHT	1	★	
17	16602-503-210	HOLDER-LCD, CD	ABS WHT	1	★	
18	16604-521-510	HOLDER-LED	ABS BLK	2		
19	16604-532-710	HOLDER-LED(C)	ABS(WHT)+TiO_2	2		
20	17621-500-110	KNOB-FUNC, CD	ABS BLK	1	★	
21	17622-502-910	KNOB-MEMORY	ABS BLK	1	★	
22	17622-503-010	KNOB-FUNC, A	ABS BLK	1	★	
23	17622-503-110	KNOB-FUNC, T(S)	ABS BLK	1	★	
24	17622-503-210	KNOB-FUNC, T(L)	ABS BLK	1	★	
25	17623-575-610	KNOB-PUSH, L	ABS BLK	2	★	
26	17623-575-710	KNOB-PUSH, C	ABS BLK	1	★	
27	17623-575-810	KNOB-VOLUME	ABS BLK	1	★	
28	17623-575-910	KNOB-CASS, S	ABS BLK	5	★	
29	17623-576-010	KNOB-CASS, FF	ABS BLK	2	★	
30	17623-576-110	KNOB-CASS, REW	ABS BLK	2	★	
31	17623-576-210	KNOB-CASS, PLAY	ABS BLK	1	★	
32	17623-576-510	KNOB-CASS, L	ABS BLK	1	★	
33	17623-576-310	KNOB-POWER	ABS BLK	1	★	
34	17623-576-410	KNOB-CD, EJT	ABS BLK	1	★	
35	17644-517-110	LENS-VOLUME	PMMR	1	★	
36	16603-509-910	HOLDER-LED, A	ABS WHT	1	★	
37	16603-510-510	HOLDER-TRAY	ABS SPRAY	1	★	
38	16174-503-510	CUHION-FOOT	RUBBER SPONGE BLK	2		
39	16174-502-110	FOOT	RUBBER BLK	2		
40	18154-586-510	STICKER-WINDOW	SOO-KWANG NO800	1	★	

NO	CODE NO.	DESCRIPTION	SPECIFICATION	Q'TY	NEW	REMARK
41	16100-500-310	CABINET-TOP	PVC STEEL 0.7T	1	★	
42	16121-503-410	CABINET-BOTTOM	SECC 0.8T	1	★	
43	16122-536-410	FRAME-L	SECC 0.8T	1	★	
44	16122-536-510	FRAME-R	SECC 0.8T	1	★	
45	17831-500-610	CABINET-REAR	H/BOARD 3.2T	1	★	
46	16603-510-210	HOLDER-FOOT	ABS BLK	2	★	
47	15009-510-820	HEAT-SINK ASSY	AL ASSY	1	★	
48	15684-507-610	HEAT-SINK	EXTR AL WHT	2		
49	13303-500-610	TERMINAL-BOARD, PUSH	4P PUSH TACK	1		
50	13304-503-620	TERMINAL-ANT	ABS 4TERMINAL	1		
51	13339-105-007	JACK-HEAD PHONE	HYT 60-065(M)	2		
52	13339-403-020	JACK-AUX	8.3 Pi PHOND TYPE	2		
53	13304-504-100	TERMINAL-P, GROUND	TE-SBC 0.5T	1		
54		TRANS-POWER		1		
55	14579-500-110	EQ BLOCK	RS20Z50HW00B 53 B	1		
56		POWER CORD ASSY		1		
57	14929-123-190	DECK TAPE	TN21 ZSW 669	1		
58	16624-560-220	BRKT-L/W S/W	SBHG 0.8T	1		
59	19840-000-110	DECK-CD (DRAW)	CMS-55	1	★	
60	16674-570-320	SPRING-DECK, B	STSW#27	4	★	
61	17094-504-310	SCREW-STUD(B)	TAP 2S-3×8	4	★	
62	16804-517-820	RUBBER-DECK	BUTYL	4	★	
63	16174-503-810	FOOT-CONTACT	EVA RUBBER	2	★	
64	14909-501-210	REMOCON ASSY	SCH7550	1	★	SAMSUNG
	14909-501-220	REMOCON ASSY	SCH7550 NO BRAND	1	★	NO BRAND
65	16603-502-410	BAND-CORD, WIRE		1		
66	17458-230-101	SCREW-TAP TITE BH	2S-3×10 FE FZY	28		
67	17154-530-101	SCREW-TAP RH SPEC	2S-3×10 FE FZY	24		
68	17154-100-630	SCREW-TAP RH SPEC	2S-3×8 FE FZY	4		
69	17154-100-640	SCREW-TAP RH SPEC	2S-3×8 FE FZB	11		
70	13599-502-020	VOLT-SELECT	PCB 00120353A(354) 110V/220V	1		
71	12339-104-650	LCD DTS	LE-0605CP	1		
72	12339-104-660	LCD CD	LA-0607 GP	1		
73	17654-565-900	FILTER-LCD, T	DIFFUSER503 OR -02 L57.6×16.4	1		
74	17654-566-010	FILTER-LCD, CD	DIFFUSER503 OR -02 L45.5×12.2	1		

3. CASSETTE DECK ASS'Y (14929-123-190)

REF. NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARK
	14929-123-190	DECK	TN21ZSW-669	
23	10000-268-023	LEAF SWITCH MSW-1541T	6401-01-149	
35	10000-268-035	PINCH ROLLER ARM ASS'Y	1921-04-301	
38	10000-268-038	SENSING LEVER	1921-26-04	
39	10000-268-039	RF CLUTCH ASS'Y	1921-07-302	
40	10000-268-040	RF BELT	1921-07-03	
43	10000-268-043	FLY WHEEL ASS'Y	1921-09-304	
44	10000-268-044	FLY WHEEL ASS'Y	1921-09-303	
47	10000-268-047	CAM GEAR	1921-26-02	
49	10000-268-049	FF GEAR	1821-10-70	
51	10000-268-051	SUPPLY REEL ASS'Y	1921-05-302	
52	10000-268-052	TAKE UP REEL ASS'Y	1921-05-301	
53	10000-268-053	SENSER	1921-05-06	
58	10000-268-058	MOTOR PULLEY	1921-12-13	
59	10000-186-059	MAIN BELT	1821-12-21	
62	10000-268-062	EJECT-SLIDE LEVER	1821-13-04	
64	10000-268-064	PACK SPRING	1829-10-01	
66	10000-521-009	R. P. HEAD	HY424700K	
67	10000-545-001	E HEAD	HJ213260K	
68	10000-502-020	MOTOR	EG530YD2B	
69	10000-268-069	RECORD SAFETY LEVER	1821-10-69	
87	10000-186-093	OPERATION LEVER	1821-31-07	
91	10000-268-091	P KICK LEVER (B)	1921-12-09	
92	10000-268-092	P KICK LEVER (A)	1821-12-68	
96	10000-268-096	LEAF SW (PLAY)	MSW17820MVDO	

NOTE : Parts which are not described in the DECK list are not serviceable. If you need any other ports except those described, apply DECK ASS'Y. (Only DECK ASS'Y is available).

4.CD DECK ASS'Y(19840-000-110)

NO	CODE NO.	DESCRIPTION AND SPECIFICATION	Q'TY	NEW	REMARK
1	13014-582-500	PCB-MICRO SW : 1VO	1		
2	13029-041-130	CONNECTOR ; 4PIN(SW)	1		
3	13029-041-230	CONNECTOR ; 4PIN(MOTOR)	1		
4	13052-901-040	CONNECTOR ; 8PIN(SHIELD)	1		
5	13079-618-125	CONNECTOR ; 8PIN	1		
6	13579-901-010	MICRO-S/W ; SSCTL1217A	2		
7	14239-101-110	SAMSUNG OPTICAL HEAD ; SOH89T1	1		
8	14769-057-240	MOTOR-SPINDLE ; RF-310T(SHAFT 18.9)	1		
9	14769-057-250	MOTOR-FEED ; RF-310T(SHAFT 10.9)	1		
10	15104-531-010	SHAFT-GEAR(C) : SUM24L(SERRATION)SCM7550	1		
11	15104-531-110	SHAFT-GEAR(D) : SUM24L SCM7550L	2		
12	15104-531-210	SHAFT-GEAR(A) ; SUM24L SCM7550L	1		
13	15104-531-220	SHAFT-GEAR(B) ; SUM24L SCM7550L	1		
14	15104-531-310	SHAFT-LEVER(A) ; SUM24L SCM7550	1		
15	15104-531-410	SHAFT-LEVER(B) ; SUM24L SCM7550	1		
16	15104-531-510	SHAFT-PU ; SUS 420J2 SCM7550	2		
17	15252-501-110	LEVER-LIFTER(R) ; P. B. T G15% SCM7550	1		
18	15252-501-210	LEVER-LIFTER(L) ; P. B. T G15% SCM7550	1		
19	15252-501-310	LIFTER-DISC ; ABS BLK SCM7550	1		
20	15252-501-410	COVER-DISC ; P. B. T G15% SCM7550	1		
21	15253-503-310	GUIDE-PU ; P. O. M SCM7550	1		
22	15253-503-410	LEVER-MAIN ; P. O. M SCM7550	1		
23	15254-509-110	GEAR-DOOR SLIDING(A) ; P. A NTR SCM7550	1		
24	15254-513-610	GEAR-MOTOR ; P. O. M SCM7550	1		
25	15254-513-710	GEAR-PU(A)P. O. M SCM7550	2		
26	15254-513-810	GEAR-PU(B) ; P. O. M SCM7550	1		
27	15254-513-910	GEAR-PU(C) ; P. O. M SCM7550	1		
28	15254-514-010	GEAR-DOOR(A) ; P. O. M SCM7550	1		
29	15254-514-310	GEAR-DOOR(C) ; P. O. M SCM7550	1		
30	15274-501-520	GELT-MOTOR ; NEOPLENE 1.2T SCM7550	2		
31	16021-504-710	BRKT MAIN(M) ; E. G T1.6+POM SCM7550	1		
32	16604-538-310	PLATE CHUCK ; P. O. M SCM7550	1		
33	16604-538-410	TURN-TABLE ; P. C G20% SCM7550	1		
34	16622-502-810	BRKT MAIN(P) ; E. G T1.6 SCM7550	1		
35	16624-571-410	BRKT-MOTOR ; EG 1.2T SCM7550	1		
36	16624-571-910	BRKT-P/U ; SECC 1.0T SCM7550	1		
37	16634-502-610	CABLE-TIE ; NYLON 66 08474	2		
38	16674-560-510	SPRING-LIFTER R ; STSW#27 SCM7550	1		
39	16674-560-610	SPRING-LIFTER L ; STSW#27 SCM7550	1		
40	16674-560-710	SPRING-COVER ; STSW#27 SCM7550	1		

NO	CODE NO.	DESCRIPTION AND SPECIFICATION	Q'TY	NEW	REMARK
41	16674-560-810	SPRING-LEVER ; STSW #27 SCM7550	1		
42	16804-517-820	RUBBER-DECK ; BUTYL SCM7550	4		
43	16844-518-220	CUSHION-DOOR ; RUBBER SPONGE 1.0T SCM75	1		
44	16844-520-210	SHEET-CHUCK ; HYMERON T0.5 SCM7500	1		
45	17008-120-063	SCREW-PH ; +M2×6 FE FZB CFSW510	1		
46	17098-120-032	SCREW-BH ; +M2×3 FE FZW	4		
47	17108-520-063	SCREW-TAP PH ; 2S−2×6 FE FZB	1		
48	17148-526-081	SCREW-TAP, RH ; 2S−2. 6×8 FE FZY	3		
49	17158-220-103	SCREW-TAP, BH ; 2−2×10 FEFZB	2		
50	17558-230-081	SCREW-TAP TITE SPEC ; S−3×8FZY	4		
51	17641-500-810	DOOR-DISC ; ABS BLK SCM550	1		
52	18314-500-810	RING-O ; POLY SLIDER PI1.2 SCM7550	5		